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Summary of Phytoplankton data for the Nelson River and Rat-Burntwood lakes, 1988.

Manitoba Department of Natural Resources.
Fisheries Branch MS Report No. 89-07, 25pp.

ABSTRACT

During the 1988 field season, phytoplankton samples were collected from Cross, Rat, Sipiwesk, Split, Stephens and Threepoint. The phytoplankton was identified to species and biomass was calculated. In this report the emphasis was placed on identification to genera and the occurrence of the major algal species.

In the 1988 samples, with exception of Cross Lake, the dominant taxonomic order was Diatomeae for Rat and Threepoint lakes, and Cryptophyceae for Sipiwesk, Split and Stephens lakes. The secondary order was Cryptophyceae for Rat and Threepoint lakes, Diatomeae for Split and Stephens lakes and Cyanophyceae and Diatomeae for Sipiwesk Lake. In most cases the dominant genus was Rhodomonas, Cryptomonas, Melosira or Anabaena. For Cross Lake, Cyanophyceae and Chlorophyceae were the dominant orders. Diatomeae was the secondary order. Rhodomonas, Pediastrum and Anabaena were the dominant or common genera in Cross Lake.

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INTRODUCTION

The 1988 data were compiled in conjunction with an ecological monitoring program under the auspices of Claim #18 of the Northern Flood Agreement. This study was initiated to assess the impact of the Churchill River diversion on the fish ecology of the northern lakes. It is necessary that all the monitored lakes have background information documented so that future comparisons can be made.

One aspect of ecological monitoring included the collection of phytoplankton samples from Rat, Threepoint, Cross, Sipiwesk, Split and Stephens lakes. Rat and Threepoint lakes, on the immediate Churchill River diversion route, are referred to as the diversion lakes. Cross and Sipiwesk, situated at the upper reaches of the Nelson, are referred to as the Upper Nelson. Split and Stephens lakes, situated near the lower reach of the Nelson, are referred to as the Lower Nelson.

The main objectives of this report are:

1. to list the occurrence of algal groups, and
2. to identify the dominant, common and present genera

This report functions only to provide baseline information on the algae composition of the aforementioned lakes and is not concerned with the interpretations of results. Data sheets summarizing the analyzed phytoplankton are appended to this report in order to make the information readily available for future reference.

METHODS AND MATERIALS

In 1988, phytoplankton samples were collected from all stations, June through September. Procedure for collection and preservation of samples was described in Livingston (1988).

The samples were sent to Department of Fisheries and Oceans, and analysed by D. Findlay. His methods were outlined in Livingston (1988).

RESULTS

In all the lakes, the dominant order generally included the dominant genus. For example, at Stn. 1 & 2 in Stephens Lake (Table 5 - Aug.),Cyanophyceae was the dominant order and Aphanizomenon and Aphanocapsa which belong to this order were the dominant genera. At Stn. 3, Diatomeae was the dominant order and Melosira spp. which belongs to it, was the dominant genus. Exceptions to this occurred from Stephens Lake (Table 5, Stn. 1, Sept. 6). where Melosira was the dominant genus, but the dominant order was Cyanophyceae. In this case Cyanophyceae, was dominant due to the diversity of its genera, which had higher individual biomass values. When summed, these genera composed of a greater biomass than the genera summed from the other orders. A final observation occurred where two orders were co-dominant. In Table 1 (Stn. 3, July 5), Cyanophyceae and Chlorophyceae were co-dominant. Anabaena and Pediastrum, the genera which belong to these orders were also co-dominant.

The dominant order was generally Diatomeae in the 1980, and especially the 1981 and 1986 Cross Lake samples (Livingston, 1987). Chlorophyceae was the secondary order in 1980-81, with a shift to Cyanophyceae in 1986. Pediastrum was the most abundant genus in 1980 with a transition towards Melosira spp., Asterionella in 1981 and a combination of either Melosira spp., Asterionella from Diatomeae, or Anabaena, Aphanizomenon, from Cyanophyceae in 1986.

For the 1988 Cross Lake samples, Cyanophyceae and Chlorophyceae were the dominant orders. Diatomeae was the secondary

order. This differed from 1987, where Cyanophyceae alone was the dominant order and Diatomeae and Chlorophyceae were the secondary orders. As in 1987, Rhodomonas and Pediastrum as well as Anabaena were dominant or common genera. Melosira was not as common a genus. The Cyanophytes, at Stns. 2 and 3, had significantly higher biomass values (Appendix B1) over 1987. For example, the summed biomass values for the genera in Cyanophyceae at Stn. 3 (App. B1, Group 1, Aug.) was 63,229.51 mg/m^3. In 1987, this value was 278.51 mg/m^3.

Generally, at most stations in all the lakes, one genera was significantly dominant. For example, Melosira listed under Group 5 of Appendix B2 (June; Stn. 1, 2 or 3), composed a much greater biomass than any of the other genera.

Excluding Cross Lake (discussed above), the dominant order for the other lakes in 1988 was not the same, as in 1987. Rat and Threepoint lakes were similar to 1987. Diatomeae was the dominant order. Cryptophyceae was the secondary order. In most cases, the dominant genera were Melosira, Anabaena, Rhodomonas or Cryptomonas.

In Sipiwesk, Split and Stephens lakes, in 1987, Diatomeae was the dominant order and Cryptophyceae the secondary order (Livingston, 1988). In 1988, Cryptophyceae was the dominant order in these lakes. Diatomeae was the secondary order in Split and Stephens lakes. Cyanophyceae and Diatomeae were the secondary orders in Sipiwesk Lake. The dominant genera included Rhodomonas, Cryptomonas, Melosira or Aphanizomenon.

Similar to 1987, an increas
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increase could be attributed to a dif
(Livingston, 1988).

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ophyceae was observed. This

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ACKNOWLEDGEMENTS

A special appreciation to D. Findlay who analysed the phytoplankton samples.

The field data was collected by D. Green, I. Hagenson and seasonal staff. Coreene Caverly typed and assembled this report.

Table 1. Occurrence of phytoplankton groups from Cross Lake, Manitoba, 1988. (1 = dominant; 2 = common; 3 = present; 4 = rare). Underlining denotes importance of genera; solid line ≈70%; broken line ≈24%, no underline ≈5%.

Station No.	Date	Cyanophyceae	Chlorophyceae	Chrysophyceae	Diatomeae	Cryptophyceae	Peridineae	Euglenophyceae	COMMON GENERA
1	June 7	1	4	3	2	3	4	4	Aphanothece, Melosira spp., Gyrosigma, Anabaena spp., Rhodomonas spp., sm Chrysophyceae, Gymnodinium
2		3	1	4	2	4	-	-	Pediastrum spp., Scenedesmus spp., Melosira spp., Gyrosigma, Anabaena spp., Stephanodiscus, Fragilaria spp.
3		3	1	4	2	4	4	-	Pediastrum, Scenedesmus spp., Gyrosigma, Stephanodiscus, Melosira spp., Fragilaria spp., Oocystis, Anabaena spp.
1	July 5	2	1	3	4	1	4	-	Rhodomonas spp., Pediastrum, Lyngbya, Oocystis, Melosira, Gomphosphaeria,
2		1	2	4	3	4	-	4	Anabaena spp., Pediastrum, Gyrosigma, Lyngbya, Botryococcus, Stephanodiscus, Fragilaria spp., Synedra spp.
3		1	1	3	2	4	4	4	Anabaena spp., Pediastrum, Scenedesmus spp., Stephanodiscus, Oocystis spp., Fragilaria spp., Melosira spp.
1	Aug 1	2	1	3	4	2	4	4	Oocystis, Rhodomonas spp., Anabaena spp., Cryptomonas spp., Dinobryon, Gomphosphaeria
2		1	2	4	3	4	4	-	Anabaena, Scenedesmus spp., Oocystis, Melosira spp., Stephanodiscus, Fragilaria, Botryococcus spp., Chroococcus
3		1	2	4	3	4	4	4	Anabaena spp., Pediastrum, Oocystis, Stephanodiscus, Fragilaria, Lyngbya, Gyrosigma, Scenedesmus spp.
1	Sept 7	3	2	3	2	1	4	4	Rhodomonas spp., Melosira spp., Cryptomonas spp., Gomphosphaeria, Scenedesmus spp., Synedra spp., Chlamydomonas
2		1	2	4	2	3	4	-	Microcystis, Pediastrum, Anabaena spp., Fragilaria spp., Rhodomonas spp., Scenedesmus spp., Gomphosphaeria
3*									

- order not present
* Sample from Stn. 3 Sept. not taken. Water level too low to land.

Table 2. Occurrence of phytoplankton groups from Rat Lake, Manitoba, 1988. (1 = dominant; 2 = common; 3 = present; 4 = rare). Underlining denotes importance of genera; solid line ≈ 70%; broken line ≈ 24%, no underline ≈ 5%.

Station No.	Date	Cyanophyceae	Chlorophyceae	Chrysophyceae	Diatomeae	Cryptophyceae	Peridineae	Euglenophyceae	COMMON GENERA
1	June 6	4	4	2	1	3	4	4	Melosira spp., Rhodomonas spp., Chrysochromulina spp., Asterionella spp., Cryptomonas spp., Gymnodinium spp., Salpingoeca
2		4	4	2	1	3	4	4	Melosira spp., Rhodomonas spp., Stelexmonas spp., Rhizosolenia, Cryptomonas spp., Chrysochromulina spp., Asterionella spp.
3		4	4	2	1	3	4	4	Melosira spp., Rhodomonas spp., Stelexmonas, Asterionella spp., Chrysochromulina spp., Dinobryon spp., Gymnodinium spp.
1	July 4	3	4	1	2	2	4	4	Dinobryon spp., Rhodomonas spp., Anabaena spp., Uroglena, Rhizosolenia, Melosira, Cryptomonas spp.
2		3	4	2	1	2	4	4	Melosira spp., Rhodomonas spp., Dinobryon spp., Anabaena spp., Chrysochromulina spp., Cryptomonas spp., Uroglena
3		3	4	2	1	2	3	4	Melosira spp., Rhodomonas spp., Dinobryon spp., Gymnodinium spp., Anabaena spp., Chrysochromulina spp. Cryptomonas spp.
1	Aug. 1	1	3	4	4	2	4	4	Anabaena spp., Aphanizomenon spp., Cryptomonas spp., Gyromitus, Rhodomonas spp., Melosira spp., small Chrysophyceae, Chlamydomonas spp.
2		4	1	3	2	1	4	4	Cryptomonas spp., Gyromitus, Melosira spp., Paulschulzia, Rhodomonas, small Chrysophyceae
3		1	1	3	2	2	4	4	Melosira spp., Anabaena spp., Cryptomonas spp., Paulschulzia, Gyromitus, small Chrysophyceae, Aphanizomenon spp.
1	Sept. 6	3	4	3	2	1	4	4	Cryptomonas spp., Rhodomonas spp., Melosira spp., Anabaena spp., Gyromitus, Chrysochromulina spp., Aphanizomenon spp.
2		1	4	4	3	2	4	4	Aphanizomenon spp., Anabaena spp., Rhodomonas spp., Cryptomonas spp., Melosira spp., Gyromitus, Stephanodiscus
3		4	3	4	2	1	4	4	Cryptomonas spp., Rhodomonas spp., Melosira spp., Gyromitus, Chlamydomonas spp., Chrysochromulina

Table 3. Occurrence of phytoplankton groups from Sipiwesk Lake, Manitoba, 1988 (1 = dominant; 2 = common; 3 = present; 4 = rare). Underlining denotes importance of genera; solid line ≈70%; broken line ≈24%, no underline ≈5%.

Station No.	Date	Cyanophyceae	Chlorophyceae	Chrysophyceae	Diatomeae	Cryptophyceae	Peridineae	Euglenophyceae	COMMON GENERA
1	June 7	3	4	2	3	1	4	4	Cryptomonas spp., Rhodomonas spp., Aphanizomenon, Chrysochromulina spp., Dinobryon spp., Melosira spp.
2		4	3	2	1	1	4	4	Melosira spp., Rhodomonas spp., Cryptomonas spp., Gymnodinium, Dinobryon spp., Pediastrum
3		4	4	3	1	2	4	-	Stephanodiscus, Rhodomonas spp., Melosira spp., Cryptomonas spp., Gymnodinium spp., Dinobryon spp.
1	July 5	3	3	1	4	2	4	4	Mallomonas spp., Rhodomonas spp., Aphanothece, Monoraphidium spp., Cryptomonas spp., Gomphospaeria
2		3	2	3	2	1	4	4	Rhodomonas spp., Melosira spp., Pediastrum, Cryptomonas spp., Oocystis spp., Anabaena spp., Stephanodiscus
3		2	3	4	2	1	4	4	Rhodomonas spp., Melosira spp., Cryptomonas spp., Anabaena spp., Peridinium spp., Pediastrum spp., Aphanizomenon spp.
1	Aug. 2	1	4	4	2	2	4	4	Aphanizomenon spp., Melosira spp., Rhodomonas spp., Anabaena spp., Cryptomonas spp., Gomphospaeria
2		2	3	4	4	1	4	4	Rhodomonas spp., Cryptomonas spp., Aphanizomenon spp., Anabaena spp., Melosira spp., small Chrysophyceae
3		1	4	4	3	2	4	4	Aphanizomenon spp., Anabaena spp., Rhodomonas spp., Melosira spp., Peridinium spp., small Chrysophyceae
1	Sept. 7	1	2	3	2	4	4	4	Aphanizomenon spp., Gomphospaeria, Stephanodiscus, Anabaena spp., Pediastrum
2		3	2	4	3	1	4	4	Cryptomonas spp., Rhodomonas spp., Planctonema, Melosira, Chlamydomonas spp., Aphanizomenon
3		3	1	4	3	2	4	4	Oocystis spp., Rhodomonas spp., Melosira spp., Cryptomonas spp., Aphanizomenon, Anabaena spp.

- order not present

Table 4. Occurrence of phytoplankton groups from Split Lake, Manitoba, 1988 (1 = dominant; 2 = common; 3 = present; 4 = rare). Underlining denotes importance of genera; solid line ≈70%; broken line ≈24%, no underline ≈5%.

Station No.	Date	Cyanophyceae	Chlorophyceae	Chrysophyceae	Diatomeae	Cryptophyceae	Peridineae	Euglenophyceae	COMMON GENERA
1	June 6	4	4	3	1	2	4	4	Melosira spp., Rhodomonas spp., Gymnodinium spp., Chrysochromulina spp., Synedra spp., Cryptomonas spp., Katablepharis
2		4	4	2	1	2	3	4	Melosira spp., Rhodomonas spp., Dinobryon spp., Gymnodinium spp., Chrysochromulina spp., Stephanodiscus, Cryptomonas spp.
3		4	4	2	1	3	4	4	Melosira spp., Chrysochromulina spp., Rhodomonas spp., Cryptomonas spp., Lyngbya, Uroglena
1	July 4	4	4	3	2	1	4	4	Rhodomonas spp., Melosira spp., Cryptomonas spp., Lyngbya, Pediastrum, Gymnodinium spp., Anabaena spp.,
2		2	3	3	3	1	4	4	Rhodomonas spp., Cryptomonas spp., Anabaena spp., Microcystis, Melosira spp., Gyromitus, Stephanodiscus
3		4	4	3	1	2	4	4	Melosira spp., Rhodomonas spp., Dinobryon spp., Stephanodiscus, Anabaena spp., Rhizosolenia, Chrysochromulina spp.
1	Aug. 2	2	2	3	3	1	4	4	Rhodomonas spp., Cryptomonas spp., Melosira spp., Anabaena spp., Gymnodinium, Gomphospaeria
2		3	2	4	4	1	4	4	Rhodomonas spp., Gyromitus, Cryptomonas spp., Chlamydomonas spp., Anabaena, Melosira spp., Aphanizomenon
3		4	4	1	2	3	4	4	small Chrysophyceae, Melosira spp., Rhodomonas spp., Cryptomonas spp., Trachelomonas, Chlamydomonas spp.
1	Sept. 6	3	1	4	4	2	4	4	Gyromitus, Rhodomonas spp., Cryptomonas spp., Elakatothrix, Chlamydomonas spp., Gomphospaeria
2		3	2	3	4	1	4	4	Rhodomonas spp., Cryptomonas spp., Gyromitus, Dinobryon, Gloeococcus, Aphanizomenon
3		4	2	3	3	1	4	4	Rhodomonas spp., Gyromitus, Cryptomonas spp., Melosira spp., Chrysochromulina spp., Trachelomonas

Table 5. Occurrence of phytoplankton groups from Stephens Lake, Manitoba, 1988. (1 = dominant; 2 = common; 3 = present; 4 = rare). Underlining denotes importance of genera; solid line ≈70%; broken line ≈24%, no underline ≈5%.

Station No.	Date	Cyanophyceae	Chlorophyceae	Chrysophyceae	Diatomeae	Cryptophyceae	Peridineae	Euglenophyceae	COMMON GENERA
1	June 6	4	4	1	2	1	3	4	Rhodomonas spp., Melosira spp., Synura, Cryptomonas spp., Gymnodinium, Dinobryon spp., Chrysochromulina spp.,
2		4	4	2	1	2	3	4	Melosira spp., Rhodomonas spp., Dinobryon spp., Chrysochromulina spp., Synedra spp., Cryptomonas spp., Gymnodinium spp.
3		4	4	2	1	2	3	4	Melosira spp., Rhodomonas spp., Synedra spp., Gymnodinium spp., Chrysochromulina spp., Cryptomonas spp.
1	July 5	2	4	1	4	3	4	4	Dinobryon spp., small Chrysophyceae, Lyngbya, Rhodomonas spp., Synura spp., Uroglena, Anabaena spp.
2		4	4	2	3	1	4	4	Rhodomonas spp., Dinobryon, Cryptomonas spp., Melosira spp., Chrysochromulina spp., Lyngbya, Gymnodinium spp.
3		4	4	3	1	2	4	4	Melosira spp., Rhodomonas spp., Cryptomonas spp., Chrysochromulina, Dinobryon spp., small Chrysophyceae
1	Aug. 2	1	4	2	3	3	3	-	Aphanizomenon spp., Anabaena spp., Dinobryon spp., Ceratium, large Chrysophyceae, Melosira spp.
2		1	3	4	4	2	4	4	Aphanocapsa, Rhodomonas spp., Gyromitus, Cryptomonas, Melosira spp., Chlamydomonas spp., Oocystis
3		2	3	4	1	3	4	4	Melosira spp., Aphanocapsa, Rhodomonas spp., Cryptomonas spp., Oocystis, Gyromitus, Westella
1	Sept. 6	1	4	3	2	3	4	4	Melosira spp., Aphanizomenon spp., Lyngbya, Anabaena spp., Cryptomonas spp., Rhodomonas spp., Asterionella spp.
2		3	2	3	4	1	4	4	Cryptomonas spp., Rhodomonas spp., Gyromitus, Gomphosphaeria, Chlamydomonas
3		4	2	3	2	1	-	4	Melosira spp., Cryptomonas spp., Rhodomonas spp., Planctonema, Gyromitus, Chrysochromulina spp.

- Order not present

Table 6. Occurrence of phytoplankton groups from Threepoint Lake, Manitoba, 1988. (1 = dominant; 2 = common; 3 = present; 4 = rare). Underlining denotes importance of genera; solid line ≈70%; broken line ≈24%, no underline ≈5%.

Station No.	Date	Cyanophyceae	Chlorophyceae	Chrysophyceae	Diatomeae	Cryptophyceae	Peridineae	Euglenophyceae	COMMON GENERA
1	June 7	4	4	2	1	3	4	4	Melosira spp., Dinobryon spp., Rhodomonas spp., Stelexmonas, Rhizosolenia, Asterionella spp.
2		4	4	2	1	3	4	4	Melosira spp., Dinobryon spp., Rhodomonas spp., Stelexmonas, large Chrysophyceae, Cryptomonas spp.
3		4	4	2	1	3	4	4	Melosira spp., Rhodomonas spp., Dinobryon spp., Stelexmonas, Asterionella spp., Chrysochromulina spp.
1	July 5	2	4	3	1	3	4	4	Melosira spp., Rhodomonas spp., Aphanizomenon spp., Anabaena spp., Dinobryon, Asterionella spp., Lyngbya
2		4	4	2	1	3	4	4	Melosira spp., Dinobryon, Chrysochromulina spp., Rhodomonas spp., Asterionella spp., large Chrysophyceae
3		3	4	2	1	3	4	4	Melosira spp., Dinobryon, Rhodomonas spp., Anabaena spp., Aphanizomenon spp., Chlamydomonas spp.
1	July 31	4	4	3	1	2	4	4	Melosira spp., Cryptomonas spp., Rhodomonas spp., Anabaena, Paulschulzia, Synura, Chlamydomonas spp.
2		3	4	2	1	2	4	4	Melosira spp., Anabaena spp., Rhodomonas spp., Dinobryon, Chrysochromulina, Cryptomonas spp.
3		3	3	3	1	2	4	4	Melosira spp., Rhodomonas spp., Anabaena, Paulschulzia, Cryptomonas spp., small Chrysophyceae
1	Sept. 6	4	3	4	2	1	4	4	Melosira spp., Rhodomonas spp., Gyromitus, Cryptomonas spp., Trachelomonas, Katablepharis
2		4	3	2	1	2	4	4	Melosira spp., Dinobryon, Rhodomonas spp., Cryptomonas spp., Gyromitus, Aphanizomenon spp.
3		4	3	4	2	1	4	4	Rhodomonas spp., Melosira spp., Cryptomonas spp., Gyromitus, Stephanodiscus, Anabaena spp.

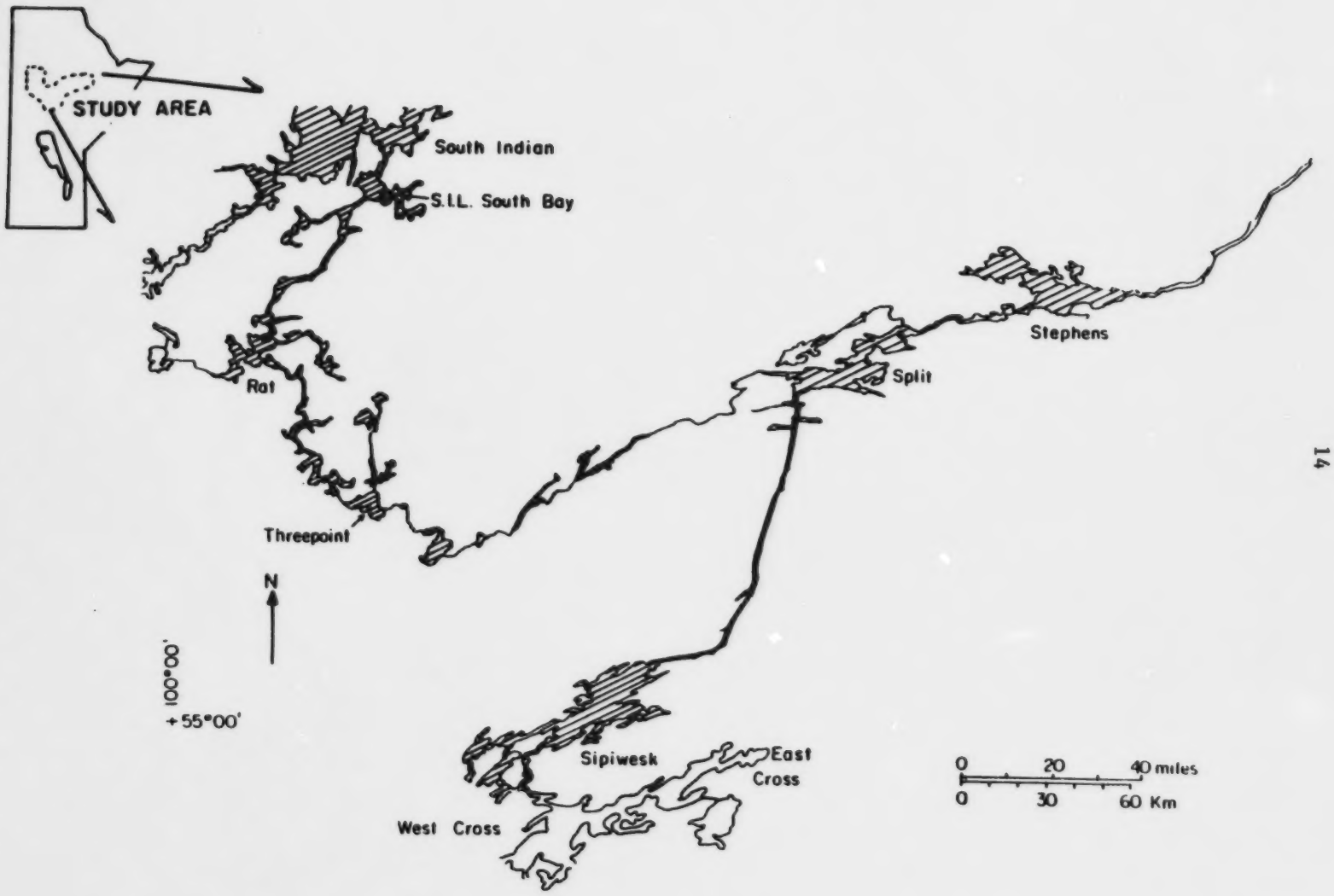

Figure 1. Location of the six lakes sampled for phytoplankton, 1988.

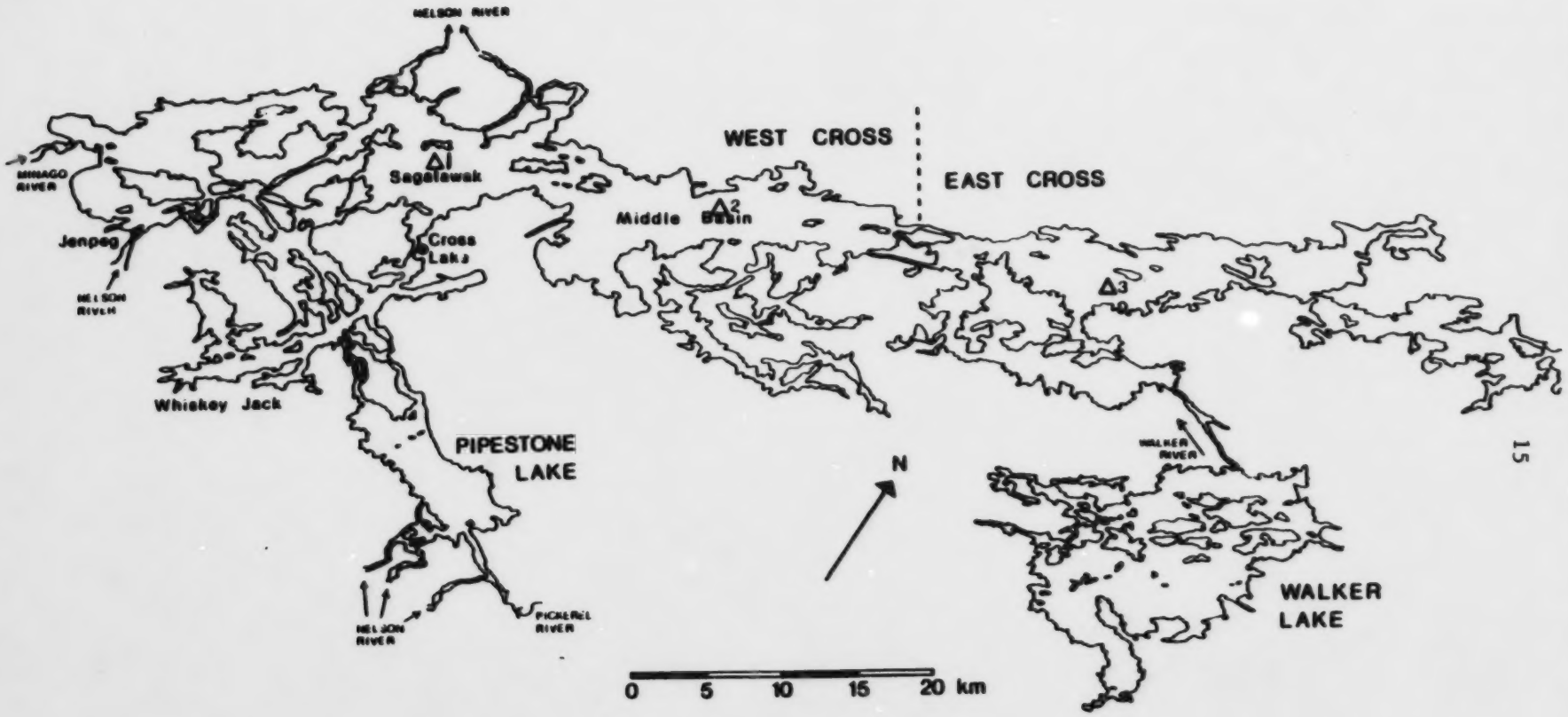

Figure 2. Limnological sampling sites from Cross Lake, Manitoba, 1988.

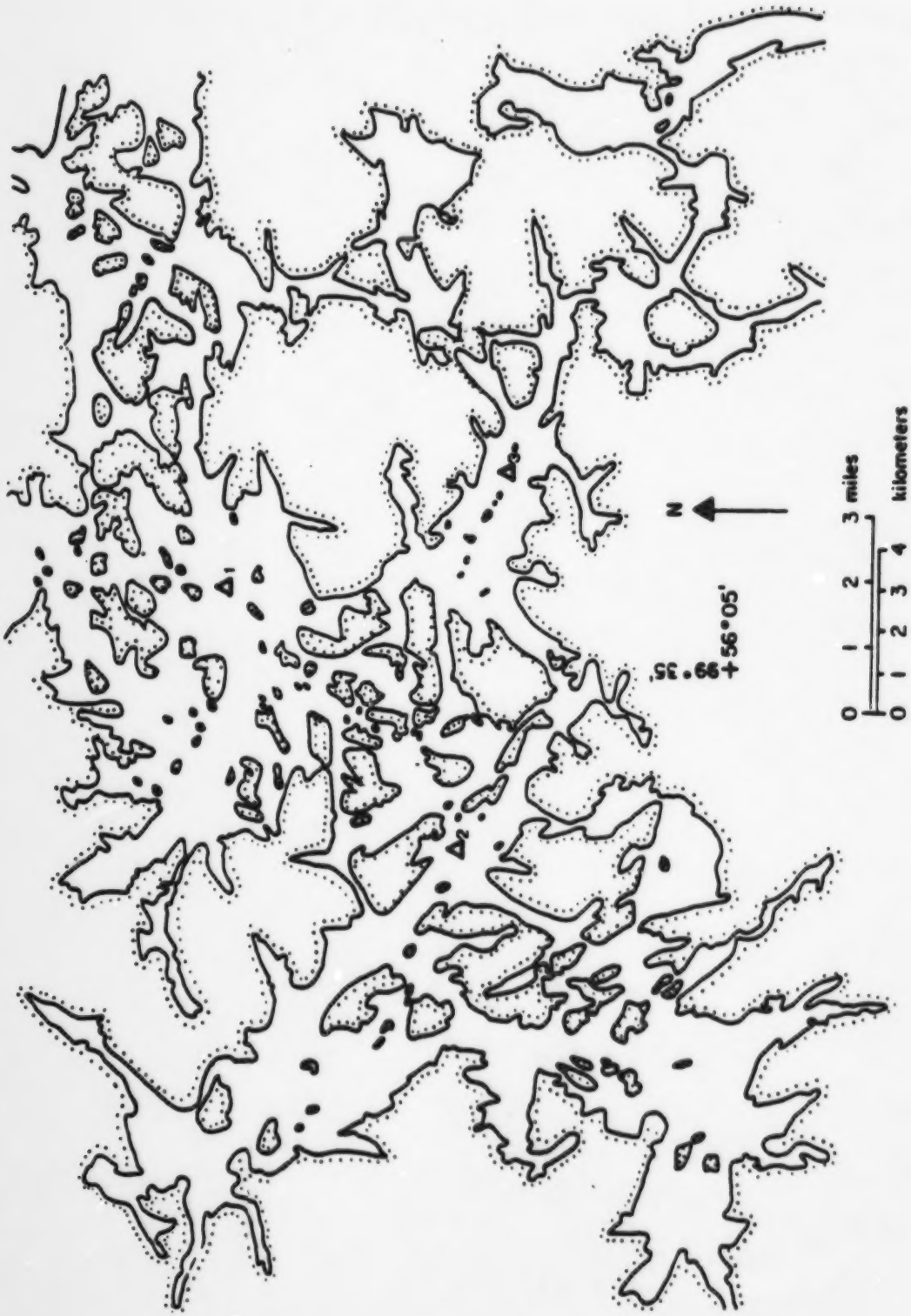

Figure 3. Limnological sampling sites from Rat Lake, Manitoba, 1988.

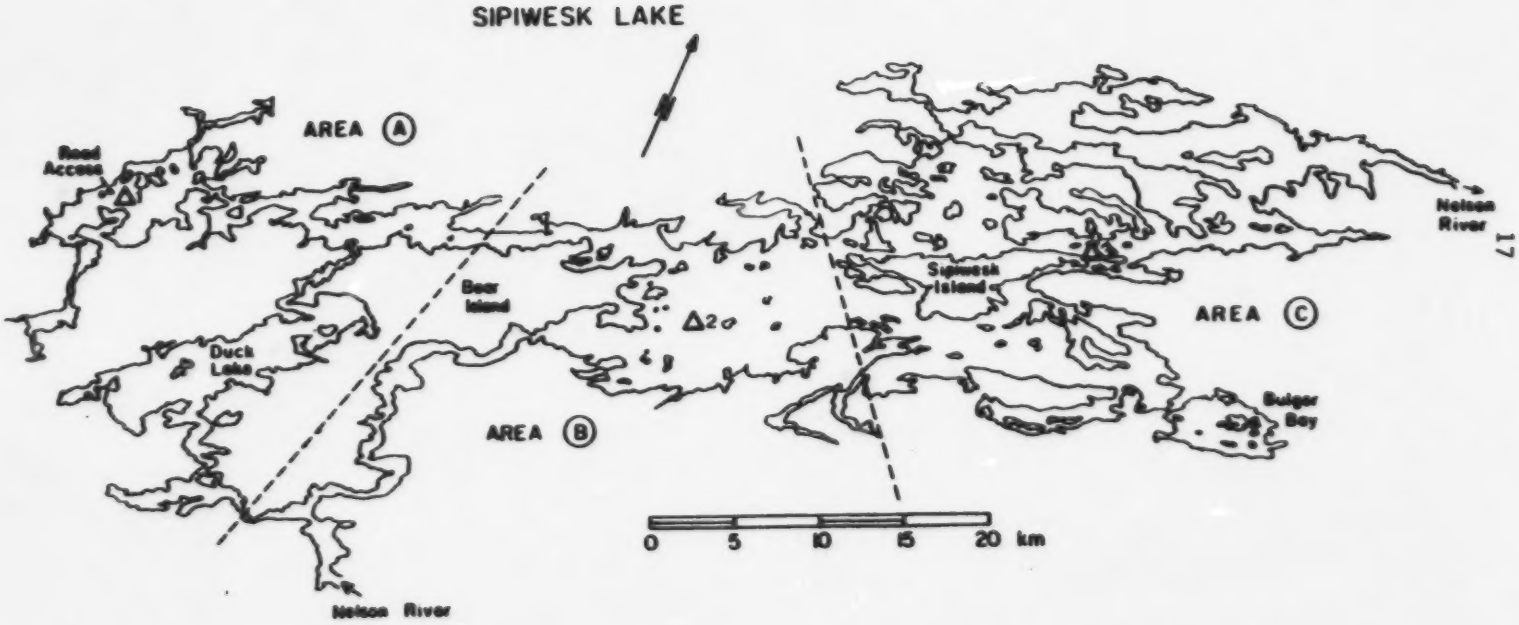

Figure 4. Limnological sampling sites from Sipiwesk Lake, Manitoba, 1988.

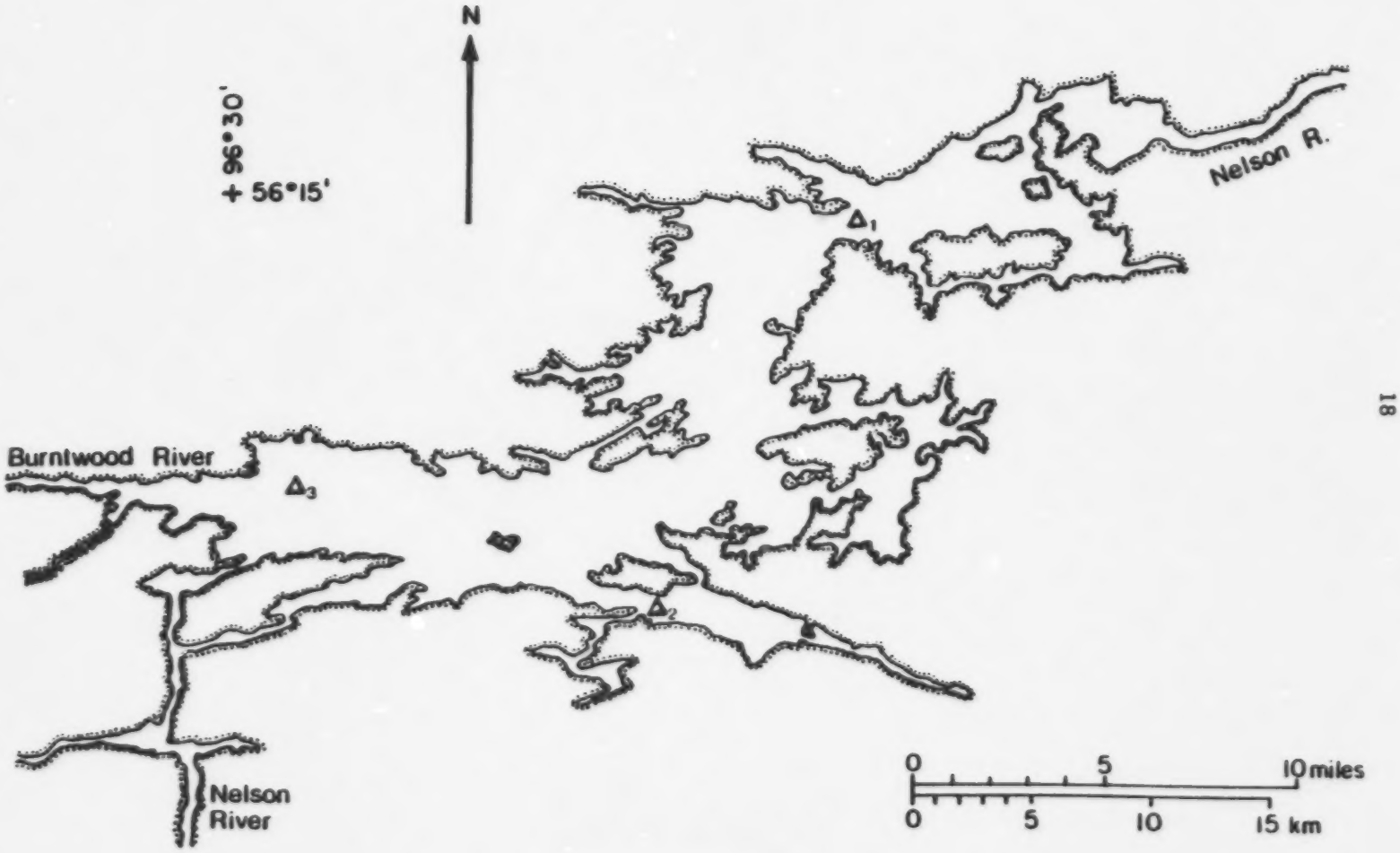

Figure 5. Limnological sampling sites from Split Lake, Manitoba, 1988.

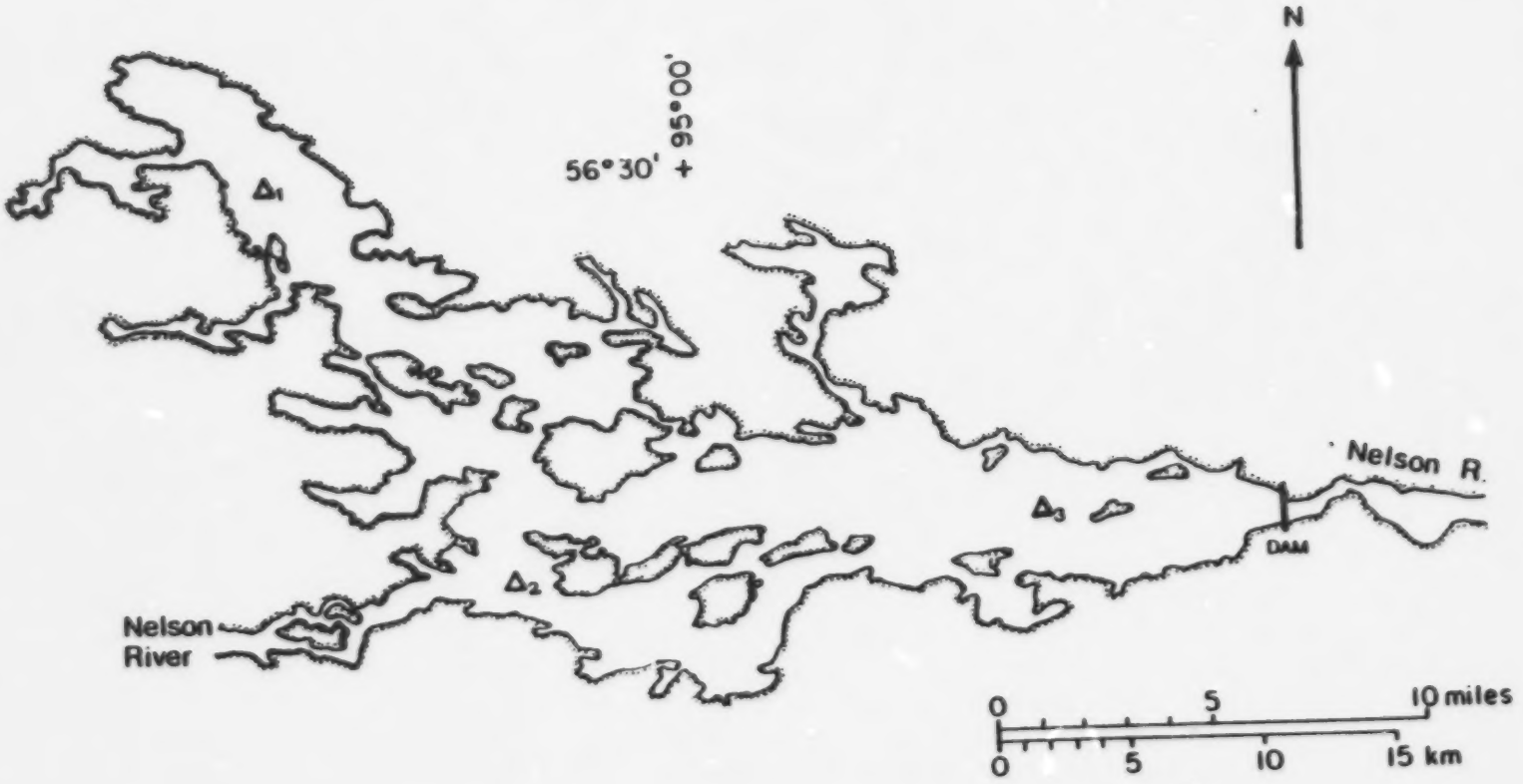

Figure 6. Limnological sampling sites from Stephens Lake, Manitoba, 1988.

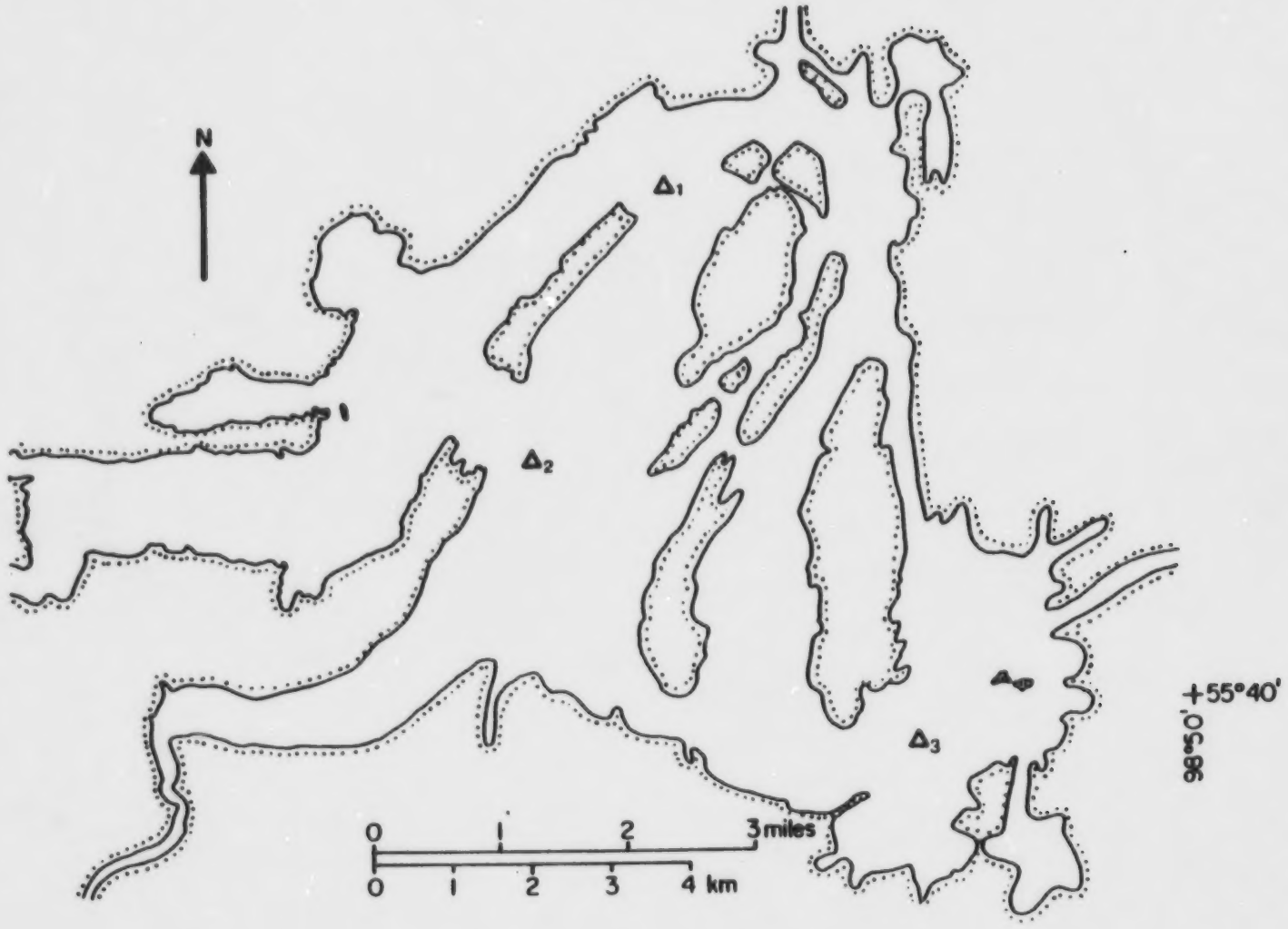

Figure 7. Limnological sampling sites from Threepoint Lake, Manitoba, 1988.

Appendix A1. Algal genera from lakes sampled in 1988.

Order	Cyanophyceae	Chlorophyceae	Chrysophyceae	Cryptophyceae	Diatomeae	Peridineae	Euglenophyceae
	Anabaena	Ankistrodesmus	Bicoeca	Cryptomonas	Asterionella	Ceratium	Astasia
	Aphanizomenon	Ankrya	Bitrichia	Katablepharis	Cyclotella	Gymnodinium	Euglena
	Aphanocopsa	Botryococcus	Chrysochromulina	Pyramidomonas	Fragilaria	Peridinium	Phacus
	Chroococcus	Bulbochaete	Chrysoikos	Rhodomonas	Frustula		Trachelomonas
	Gomphosphaeria	Carteria	small Chrysophyceae		Gonyostomun		
	Lyngbya	Chlamydomonas	large Chrysophyceae		Gyrosigma		
	Merismopedia	Chloregonium	Dinobryon		Melosira		
	Microcystis	Chodatella	Epiphyxis		Pennate diatoms		
	Oscillatoria	Closterium	Kephyrion		Rhizosolenia		
	Radiocystis	Coelastrum	Mallomonas		Stephanodiscus		
	Small bluegreens	Cosmarium	Ochromonas		Surirella		
	Synechococcus	Crucigeniella	Pteridomonas		Synedra		
		Desmidium	Salpingoeca		Tabellaria		
		Dictyosphaerium	Spinifiromonas				
		Elakatothrix	Stelexmonas				
		Gloeococcus	Stichogloeca				
		Gyromitus	Synura				
		Kichnerella	Uroglena				
		Monoraphidium					
		Mougeotia					
		Oocystis					
		Paulschulzia					
		Pediastrum					
		Planctonema					
		Scenedesmus					
		Scourfieldia					
		Small greens					
		Spirogrya					
		Spondylosium					
		Staurastrum					
		Tetraedon					
		Westella					

APPENDIX B1. Phytoplankton data from Cross Lake, 1988.

Group	
1	Cyanophyceae - blue greens
2	Chlorophyceae - greens
3	Euglenophyceae - euglenophytes
4	Chrysophyceae - chrysophytes
5	Bacillariophyceae - diatoms
6	Cryptophyceae - cryptophytes
7	Peridineae - dinoflagellates

CROSS LAKE June 7 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	221.00	1089.00	960.28	66.39	70.14	67.42
Aphanizomenon	15.08	20.00	5.52	17.92	16.84	17.40
Aphanocapsa						
Aphanothece	680.56			32.00		
Chroococcus		33.33			3.86	
Gomphospaeria		68.60	64.40		32.00	26.00
Lyngbya		32.74	69.45		8.07	8.74
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis			121.03			17.99
Small bluegreens						
Synechococcus						
Total	916.64	1243.67	1220.68	116.31	130.91	137.55
GROUP 2						
Ankistrodesmus						
Ankrya						
Arthrodesmus						
Botryococcus			68.60			32.00
Carteria						
Chlamydomonas	3.37		328.58	5.46		10.96
Chodatella		3.37			5.46	
Closterium						
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium		19.64			3.06	
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella	2.38			3.06		
Monoraphidium	31.94	7.74	5.16	6.03	4.99	4.99
Mougeotia						
Oocystis		182.54	1308.35		24.43	14.42
Paulschulzia						
Pediastrum	73.62	4406.83	13209.48	52.00	54.41	47.00
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus		3748.06	7915.76		32.77	52.93
Schroederia						
Small greens	18.25			6.03		
Spirogrya						
Sponylosium						
Staurastrum		10.00			26.73	
Teilingia						
Tetraedon						
Westella						
Desmidium		48.00			45.09	
Scourfieldia						
Gyromitus						
Chlorogonium						
Total	129.56	8426.18	22835.93	72.58	196.94	162.30

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena						
Trachelomonas	4.85			21.00		
Phacus						
Total	4.85	0.00	0.00	21.00	0.00	0.00
GROUP 4						
Biocoeca						
Bitrichia						
Chrysochromulina	3.97	43.26		5.76	13.48	
Chrysoikos						
Small Chrysophyceae	110.91	165.08	219.25	4.99	4.99	4.99
Large Chrysophyceae	51.59			7.92		
Dinobryon						
Kephyrion						
Mallomonas	4.75			16.55		
Ochromonas						
Pteridomonas						
Salpingoeca						
Spinifiromonas						
Stelexmonas						
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	171.22	208.34	219.25	35.22	18.47	4.99
GROUP 5						
Asterionella	3.72	7.82	19.71	12.11	7.60	8.02
Cyclotella						
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria	54.15	551.04	1372.16	32.55	71.98	71.98
Frustula		245.76	655.36		53.88	53.88
Gyrosigma	241.30	1737.36	7208.96	35.85	35.85	53.88
Melosira	246.12	1837.38	1924.00	32.26	81.01	83.43
Navicula						
Nitzchia						
Rhizosolenia						
Stephanodiscus	39.80	1018.90	2356.25	42.36	43.90	44.81
Surirella	21.20	106.00	63.60	34.34	34.34	34.34
Synedra	23.73	17.52	42.71	10.26	10.26	37.77
Tabellaria		20.16	56.00		16.88	12.41
Stauromies						
Pennate Diatoms						
Total	630.02	5541.94	13698.75	199.73	355.70	400.52
GROUP 6						
Cryptomonas	48.74	2.38	2.38	34.89	16.55	16.55
Katablepharis	23.81			5.76		
Rhodomonas	200.79	38.09	19.84	13.88	13.88	5.76
Gonyostomun						
Total	273.34	40.47	22.22	54.53	30.43	22.31
GROUP 7						
Ceratium						
Gymnodinium	81.90			37.36		
Peridinium	9.60		3.20	18.28		18.28
Total	91.50	0.00	3.20	55.64	0.00	18.28

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	28.95	47885.77	26404.34	66.96	84.27	76.92
Aphanizomenon	10.85	12.50		17.92	16.84	
Aphanocapsa						
Aphanothece						
Chroococcus		10.32			4.99	
Gomphospaeria	51.47	102.90	46.00	32.00	32.00	26.00
Lyngbya	61.96	545.64	218.26	8.95	7.82	7.82
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	153.23	48557.13	26668.60	125.83	145.92	110.74
GROUP 2						
Ankistrodesmus						
Ankrya		0.99			3.63	
Arthrodesmus						
Botryococcus		543.20			42.00	
Carteria						
Chlamydomonas	11.63	328.58		15.20	10.96	
Chodatella		11.90	3.97		5.23	5.76
Closterium	2.07		96.90	18.75		74.35
Coelastrum	2.90		7.20	24.00		23.96
Collodictyon						
Cosmarium			11.90			8.31
Crucigeniella		4.99	4.76		2.58	6.12
Dictyospaerium		2.38			3.06	
Elaktothrix	0.57			4.24		
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	3.16	26.59		9.56	10.22	
Mougeotia	5.76			26.37		
Oocystis	58.91		1333.35	19.86		44.57
Paulschulzia						
Pediastrum	69.49	4413.60	18481.95	48.00	56.00	56.00
Planctonema	12.93			8.31		
Pyramidomonas						
Quadrigula						
Scenedesmus		7.94	4050.05		11.52	34.64
Schroederia						
Small greens	12.64			5.94		
Spirogrya						
Sponylosium						
Staurastrum		20.00	11.50		26.73	40.93
Teilingia						
Tetraedon	2.16			8.31		
Westella						
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium						
Total	182.22	5360.17	24001.58	188.54	171.93	294.64

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena		36.00	18.00		25.81	25.81
Trachelomonas			9.70			21.00
Phacus						
Total	0.00	36.00	27.70	0.00	25.81	46.81
GROUP 4						
Biocoeca	10.63			8.91		
Bitrichia						
Chrysochromulina	4.67	16.01		4.99	13.98	
Chrysoikos						
Small Chrysophyceae	42.96	126.39	43.85	4.99	4.99	4.99
Large Chrysophyceae	9.34	30.95		7.92	7.92	
Dinobryon	34.48	47.62		13.18	13.18	
Kephyrion						
Mallomonas						
Ochromonas						
Pteridomonas						
Salpingoeca	6.03			6.44		
Spinifiromonas	1.87			7.92		
Stelexmonas						
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	109.98	220.97	43.85	54.35	40.07	4.99
GROUP 5						
Asterionella		35.37	5.52		8.02	7.60
Cyclotella	15.59			8.01		
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria		222.08	1161.16		71.98	83.34
Frustula						
Gyrosigma	1.18	983.04	506.73	22.41	53.88	35.38
Melosira	56.30	135.69	726.32	37.74	44.21	92.60
Navicula						
Nitzchia						
Rhizosolenia	9.77	47.02	490.09	10.91	9.10	12.20
Stephanodiscus		354.40	3068.00		43.90	48.30
Surirella			127.20			34.34
Synedra	4.87	203.10	34.07	8.12	37.77	37.77
Tabellaria		42.00	8.00		15.63	15.63
Stauromies			7.50			24.29
Pennate Diatoms						
Total	87.71	2022.70	6134.59	87.19	284.49	391.45
GROUP 6						
Cryptomonas	31.45	16.63		34.89	16.55	
Katablepharis	6.47	43.65	11.90	5.76	5.76	5.76
Rhodomonas	154.89	19.05		13.88	13.88	
Gonyostomun						
Total	192.81	79.33	11.90	54.53	36.19	5.76
GROUP 7						
Ceratium						
Gymnodinium						
Peridinium	0.66		16.63	14.66		16.55
Total	0.66	0.00	16.63	14.66	0.00	16.55

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	135.57	51700.60	60893.49	75.84	34.06	68.85
Aphanizomenon	23.88	112.95	27.61	20.89	16.86	16.86
Aphanocapsa	30.82			13.98		
Aphanothece						
Chroococcus		309.92	157.14		5.94	5.94
Gomphospaeria	51.45	82.32	325.85	32.00	34.00	32.00
Lyngbya	1.65	68.45	1825.42	7.60	10.32	10.32
Merismopedia	9.70			4.57		
Microcystis						
Oscillatoria	40.41			10.61		
Radiocystis						
Small bluegreens						
Synechococcus						
Total	293.48	52274.24	63229.51	165.49	101.18	133.97
GROUP 2						
Ankistrodesmus						
Ankrya						
Arthrodesmus						
Botryococcus	21.76	360.36	291.72	34.64	32.00	32.00
Carteria						
Chlamydomonas	26.78			21.44		
Chodatella						
Closterium	2.12	96.40	12.00	38.94	28.44	28.40
Coelastrum		14.48	7.24		24.00	24.00
Collodictyon						
Cosmarium		28.95			30.24	
Crucigeniella	0.79			5.94		
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella	1.16	2.22		2.37	2.37	
Monoraphidium	1.22			7.11		
Mougeotia	8.36			43.06		
Oocystis	312.07	8619.15	4596.88	24.00	24.00	24.00
Paulschulzia			97.70			36.00
Pediastrum	19.98		32138.50	39.86		57.49
Planctonema	3.23			4.57		
Pyramidomonas						
Quadrigula						
Scenedesmus		12865.13	956.36		77.10	21.31
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum		20.00	70.00		26.73	60.41
Teilingia						
Tetraedon	0.11			3.06		
Westella			785.72			9.51
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium						
Total	397.58	22006.69	38956.12	224.99	244.88	293.12

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	1.58		4.26	19.61		20.11
Trachelomonas	1.94			21.00		
Phacus						
Total	3.52	0.00	4.26	40.61	0.00	20.11
GROUP 4						
Biocoeca	7.97		14.88	8.91		8.95
Bitrichia						
Chrysochromulina	2.80		5.16	4.99		4.99
Chrysoikos						
Small Chrysophyceae	28.02	30.95	79.96	4.99	4.99	4.99
Large Chrysophyceae						
Dinobryon	53.88			14.20		
Kephyrion						
Mallomonas	2.40			34.05		
Ochromonas						
Pteridomonas						
Salpingoeca	6.03	11.11	33.33	6.44	6.44	6.44
Spinifiromonas						
Stelexmonas						
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	101.10	42.06	133.33	73.58	11.43	25.37
GROUP 5						
Asterionella		28.25	45.20		12.92	12.92
Cyclotella	0.79			12.11		
Diatoms						
small Diatoms						
large Diatoms						
Fragilaria		1427.25	1958.40		43.55	43.64
Frustula						
Gyrosigma		241.30	989.33		35.85	35.85
Melosira	39.36	5096.90	146.24	36.08	73.11	51.88
Navicula						
Nitzchia						
Rhizosolenia			54.76			7.60
Stephanodiscus		3287.44	2684.24		38.62	38.62
Surirella						
Synedra	6.10	157.09	99.74	10.26	37.80	37.80
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	46.25	10238.23	5977.91	58.45	241.85	228.31
GROUP 6						
Cryptomonas	66.27	14.85	9.90	48.39	14.66	14.66
Katablepharis	5.75	19.84	3.97	5.76	5.76	5.76
Rhodomonas	147.27		15.87	13.88		5.76
Gonyostomun						
Total	219.29	34.69	29.74	68.03	20.42	26.18
GROUP 7						
Ceratium		50.00			45.71	
Gymnodinium						
Peridinium	6.03		37.70	24.33		24.33
Total	6.03	50.00	37.70	24.33	45.71	24.33

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena		3214.87			69.31	
Aphanizomenon	4.94	15.21		13.09	13.07	
Aphanocapsa						
Aphanothece		624.21			13.98	
Chroococcus						
Gomphospaeria	73.20	1148.00		35.99	37.99	
Lyngbya	25.22	30.16		9.06	8.99	
Merismopedia	2.05			5.66		
Microcystis		35048.03			47.24	
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	105.41	40080.48	0.00	63.80	190.58	0.00
GROUP 2						
Ankistrodesmus						
Ankrya						
Arthrodesmus						
Botryococcus						
Carteria						
Chlamydomonas	41.31			13.00		
Chodatella	0.72	8.93		5.76	5.23	
Closterium	2.77	0.99		40.66	12.37	
Coelastrum		24.40			35.99	
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium	1.95			4.02		
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	6.89	13.89		8.36	4.06	
Mougeotia						
Oocystis	4.74	454.77		8.57	17.63	
Paulschulzia						
Pediastrum	14.72	5814.40		51.99	51.99	
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus	67.03	1588.91		23.66	23.21	
Schroederia						
Small greens	35.61			57.20		
Spirogrya						
Sponylosium	2.16			5.76		
Staurastrum		45.00			30.60	
Teilingia						
Tetraedon		0.60			3.06	
Westella						
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium						
Gloeococcus		250.00			10.01	
Total	177.90	8201.89	0.00	218.98	184.14	0.00

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena						
Trachelomonas	0.61			17.99		
Phacus	0.70			18.84		
Total	1.31	0.00	0.00	36.83	0.00	0.00
GROUP 4						
Biocoeca	2.30	12.70		8.49	8.49	
Bitrichia						
Chrysochromulina	35.82	177.98		13.48	4.99	
Chrysoikos						
Small Chrysophyceae	31.29	100.60		4.99	4.99	
Large Chrysophyceae						
Dinobryon						
Kephyrion						
Mallomonas	0.48			16.55		
Ochromonas						
Pteridomonas						
Salpingoeca	2.30	330.16		8.49	8.49	
Spinifiromonas						
Stelexomonas						
Stichogloeca						
Synura						
Uroglena	32.18	101.59		8.12	8.49	
Epiphyxis						
Total	104.37	723.03	0.00	60.12	35.45	0.00
GROUP 5						
Asterionella	5.49	122.86		19.85	19.85	
Cyclotella		31.75			11.52	
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria		2258.60			78.01	
Frustula						
Gyrosigma	4.83	655.36		35.85	53.88	
Melosira	111.10	1026.85		86.04	54.60	
Navicula						
Nitzchia						
Rhizosolenia		83.33			12.61	
Stephanodiscus		725.80			41.79	
Surirella		65.50			50.01	
Synedra	42.98	74.02		39.92	10.26	
Tabellaria	10.40	8.00		12.41	12.41	
Stauromies						
Pennate Diatoms						
Total	174.80	5052.07	0.00	194.07	344.94	0.00
GROUP 6						
Cryptomonas	95.05	160.16		58.85	58.85	
Katablepharis	7.18	7.94		5.76	5.76	
Rhodomonas	213.22	1725.41		13.88	13.88	
Gonyostomun						
Total	315.45	1893.51	0.00	78.49	78.49	0.00
GROUP 7						
Ceratium	10.00	100.00		45.71	45.71	
Gymnodinium		99.21			13.37	
Peridinium	0.48			16.55		
Total	10.48	199.21	0.00	62.26	59.08	0.00

APPENDIX B2. Phytoplankton data from Rat Lake, 1988.

Group	
1	Cyanophyceae - blue greens
2	Chlorophyceae - greens
3	Euglenophyceae - euglenophytes
4	Chrysophyceae - chrysophytes
5	Bacillariophyceae - diatoms
6	Cryptophyceae - cryptophytes
7	Peridineae - dinoflagellates

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	15.92			29.37		
Aphanizomenon	0.45	1.50	0.86	11.27	11.27	12.69
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria		15.09			15.89	
Lyngbya	7.47			7.92		
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	23.84	16.59	0.86	48.56	27.16	12.69
GROUP 2						
Ankistrodesmus	11.21		1.72	6.12		6.12
Ankrya						
Arthrodesmus						
Botryococcus						
Carteria		2.01			8.12	
Chlamydomonas			0.72			4.57
Chodatella		1.29	0.36		7.01	4.57
Closterium		0.20			12.37	
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium	0.36			4.57		
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	8.41	7.47	5.54	4.99	4.99	9.56
Mougeotia						
Oocystis						
Paulschulzia						
Pediastrum						
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus						
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon	0.32			3.06		
Westella						
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium						
Total	20.30	10.97	8.34	18.74	32.49	24.82

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia			5.39			11.27
Euglena	2.14		2.14	27.34		27.34
Trachelomonas	17.46	4.31	1.23	21.00	18.04	18.04
Phacus						
Total	19.60	4.31	8.76	48.34	18.04	56.65
GROUP 4						
Biocoeca						
Bitrichia						
Chrysochromulina	92.93	43.54	45.91	12.91	13.48	13.48
Chrysoikos						
Small Chrysophyceae	41.09	21.48	10.27	4.99	4.99	4.99
Large Chrysophyceae	54.17	29.89	11.21	7.92	7.92	7.92
Dinobryon	32.76	30.43	44.46	31.71	45.41	46.26
Kephyrion						
Mallomonas	2.85	3.38		16.55	9.65	
Ochromonas						
Pteridomonas						
Salpingoeca	68.97	13.79	11.49	8.49	8.49	8.49
Spinifiromonas	1.01		6.90	6.44		8.49
Stelexmonas	31.61	51.01	68.25	5.76	5.76	5.76
Stichogloeca		0.79			5.94	
Synura	5.60	36.76	8.32	7.92	55.99	42.99
Uroglena						
Epiphyxis	2.01	2.01	2.01	8.12	8.12	8.12
Total	333.00	233.08	208.82	110.81	165.75	146.50
GROUP 5						
Asterionella	80.21	43.38	50.51	19.79	19.79	19.79
Cyclotella		2.87	4.31		7.26	7.26
Diatoms						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	1647.04	1521.38	1100.50	133.18	114.66	125.05
Navicula						
Nitzchia						
Rhizosolenia	8.62	48.13	8.62	9.14	10.86	9.14
Stephanodiscus						
Surirella						
Synedra	3.65	7.34	3.28	10.64	36.45	10.64
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	1739.52	1623.10	1167.22	172.75	189.02	171.88
GROUP 6						
Cryptomonas	76.69	46.40	27.32	104.58	104.58	77.28
Katablepharis	22.99	13.65	15.09	5.76	5.76	5.76
Rhodomonas	109.20	84.77	91.24	13.88	13.88	13.88
Gonyostomun						
Total	208.88	144.82	133.65	124.22	124.22	96.92
GROUP 7						
Ceratium						
Gymnodinium	72.40	32.76	28.58	84.63	37.36	86.20
Peridinium	0.95	0.48	0.48	16.55	16.55	16.55
Total	73.35	33.24	29.06	101.18	53.91	102.75

RAT LAKE July 4 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	61.52	65.85	48.05	123.84	126.38	70.38
Aphanizomenon	1.47	1.26	4.21	12.61	12.61	13.07
Aphanocapsa			0.09			1.56
Aphanothece						
Chroococcus						
Gomphospaeria						
Lyngbya	2.80			9.06		
Merismopedia						
Microcystis	2.06			26.99		
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus		4.60			5.35	
Total	67.85	71.71	52.35	172.50	144.34	85.01
GROUP 2						
Ankistrodesmus			0.29			4.24
Ankrya						
Arthrodesmus						
Botryococcus			4.88			35.99
Carteria						
Chlamydomonas		2.67	26.29		12.37	18.59
Chodatella						
Closterium		0.20			12.37	
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium		0.43			3.06	
Elaktothrix						
Eudorina						
Gloecoccus	0.01			3.06		
Kichnerella						
Monoraphidium	4.67	2.80	3.74	4.99	4.99	7.92
Mougeotia						
Oocystis						
Paulschulzia		4.88			35.99	
Pediastrum						
Planctonema						
Pyramidomonas			15.09			15.89
Quadrigula						
Scenedesmus	8.62			13.18		
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon		0.22			3.86	
Westella						
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium						
Total	13.30	11.20	50.29	21.23	72.64	82.63

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	8.56	8.56	4.28	27.34	27.34	27.34
Trachelomonas	9.15	3.66	10.37	17.99	17.99	17.99
Phacus						
Total	17.71	12.22	14.65	45.33	45.33	45.33
GROUP 4						
Biocoeca						
Bitrichia						
Chrysochromulina	27.41	48.28	47.49	13.48	13.48	13.48
Chrysoikos						
Small Chrysophyceae	16.34	5.60	26.15	4.99	4.99	4.99
Large Chrysophyceae	14.94		5.60	7.92		7.92
Dinobryon	312.65	188.79	108.87	31.25	31.25	69.70
Kephyrion	0.02			3.86		
Mallomonas	0.48	1.90	2.85	16.55	16.55	16.55
Ochromonas						
Pteridomonas		2.30			8.49	
Salpingoeca	9.20	16.09	11.49	8.49	8.49	8.49
Spinifiromonas		1.87			7.92	
Stelexmonas	3.59		2.87	5.76		5.76
Stichogloeca						
Synura		2.30	1.87		8.49	7.92
Uroglena	47.41	24.28	18.10	8.31	7.92	8.12
Epiphyxis						
Total	432.04	291.41	225.29	100.61	107.58	142.93
GROUP 5						
Asterionella	10.57	23.06	26.07	19.79	19.01	19.01
Cyclotella			1.20			12.41
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	36.58	332.62	881.52	66.58	67.66	74.78
Navicula						
Nitzchia						
Rhizosolenia	42.67	14.22		10.80	10.80	
Stephanodiscus	10.18		10.18	45.98		45.98
Surirella						
Synedra	1.19	5.05	10.25	8.57	34.38	34.38
Tabellaria	3.20		0.80	12.41		12.41
Stauromies						
Pennate Diatoms						
Total	104.39	374.95	930.02	164.13	131.85	198.97
GROUP 6						
Cryptomonas	32.66	30.53	41.97	57.58	57.58	57.58
Katablepharis		7.18	10.78		5.76	5.76
Rhodomonas	74.57	221.13	158.34	13.88	13.88	13.88
Gonyostomun						
Total	107.23	258.84	211.09	71.46	77.22	77.22
GROUP 7						
Ceratium						
Gymnodinium	21.80	19.20	59.28	84.63	35.79	103.99
Peridinium	1.43	1.90	0.48	16.55	16.55	16.55
Total	23.23	21.10	59.76	101.18	52.34	120.54

RAT LAKE August 01 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	179.70	14.54	136.78	62.07	61.03	68.75
Aphanizomenon	172.03	2.02	53.08	74.54	13.40	68.82
Aphanocapsa						
Aphanothece			22.85			18.24
Chroococcus						
Gomphospaeria						
Lyngbya	1.69			7.66		
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	353.42	16.56	212.71	144.27	74.43	155.81
GROUP 2						
Ankistrodesmus	4.60	12.93	4.31	4.24	4.24	4.24
Ankrya						
Arthrodesmus						
Botryococcus	4.49	7.22		35.00	41.00	
Carteria	3.77			10.01		
Chlamydomonas	12.32		1.85	21.77		10.27
Chodatella	0.32			4.41		
Closterium			0.18			11.91
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium		0.47			4.99	
Mougeotia						
Oocystis						
Paulschulzia	6.20	115.80	108.27	38.98	48.00	41.00
Pediastrum						
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus	0.65			4.41		
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon	0.11			3.06		
Westella						
Desmidium						
Scourfieldia						
Gyromitus	150.86	125.00	100.58	10.46	10.46	10.23
Chlorogonium						
Total	183.32	261.42	215.19	132.34	108.69	77.65

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena		2.61	2.83		29.23	30.02
Trachelomonas	4.17		0.97	19.97		21.00
Phacus						
Total	4.17	2.61	3.80	19.97	29.23	51.02
GROUP 4						
Biocoeca	1.54	4.02		7.43	6.44	
Bitrichia			1.08			6.59
Chrysochromulina	4.67	10.81	14.37	4.99	13.01	5.76
Chrysoikos						
Small Chrysophyceae	30.82	32.69	53.16	4.99	4.99	5.76
Large Chrysophyceae		7.76	15.52		8.02	8.02
Dinobryon			9.00			30.60
Kephyrion	0.32	2.27	0.11	4.41	12.81	3.06
Mallomonas	10.51		11.20	44.46		41.87
Ochromonas						
Pteridomonas						
Salpingoeca	4.13	7.76	1.65	6.03	8.02	6.03
Spinifiromonas		2.73			8.99	
Stelexmonas		4.31	2.16		5.76	5.76
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	51.99	72.35	108.25	72.31	68.04	113.45
GROUP 5						
Asterionella	2.07	1.20	0.97	7.60	7.82	7.60
Cyclotella	1.14	1.00	5.72	13.60	13.60	18.24
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	58.72	123.48	154.64	66.97	72.25	68.01
Navicula						
Nitzchia						
Rhizosolenia		12.93	10.61		8.83	23.23
Stephanodiscus			0.63			18.17
Surirella						
Synedra	0.06	2.87	0.08	5.11	36.29	5.11
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	61.99	141.48	172.65	93.28	138.79	140.36
GROUP 6						
Cryptomonas	146.93	167.35	121.11	56.92	55.95	74.49
Katablepharis	3.59	5.03	10.78	5.76	5.76	5.76
Rhodomonas	65.80	102.16	52.59	13.88	13.88	13.88
Gonyostomun						
Total	216.32	274.54	184.48	76.56	75.59	94.13
GROUP 7						
Ceratium						
Gymnodinium	5.73	9.42	8.15	30.13	31.07	42.02
Peridinium	4.07	1.62	4.07	15.72	15.71	15.72
Total	9.80	11.04	12.22	45.85	46.78	57.74

RAT LAKE September 6 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	64.86	360.97	20.46	72.26	77.67	73.63
Aphanizomenon	39.22	629.14	4.53	61.52	63.83	12.53
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria						
Lyngbya						
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	104.08	990.11	24.99	133.78	141.50	86.16
GROUP 2						
Ankistrodesmus		14.37			6.20	
Ankrya		0.72			5.76	
Arthrodesmus						
Botryococcus						
Carteria						
Chlamydomonas	18.96	1.36	32.76	14.49	10.18	16.84
Chodatella		0.14			3.37	
Closterium	0.79	0.59	0.79	12.37	12.37	12.37
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	5.78	4.27	3.45	4.06	4.06	4.24
Mougeotia						
Oocystis		10.24			13.96	
Paulschulzia	2.88	10.19	6.21	23.96	46.00	39.00
Pediastrum	3.12			30.99		
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus						
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon	0.11	0.11		3.06	3.06	
Westella						
Desmidium						
Scourfieldia						
Gyromitus	56.04	73.28	112.07	10.46	10.46	10.46
Chlorogonium						
Total	87.68	115.27	155.28	99.39	115.42	82.91

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	6.42			27.34		
Trachelomonas	7.32	14.64	10.37	17.99	17.99	17.99
Phacus						
Total	13.74	14.64	10.37	45.33	17.99	17.99
GROUP 4						
Biocoeca	2.30		2.30	8.49		8.49
Bitrichia	2.05			5.66		
Chrysochromulina	45.08	24.28	28.95	13.48	4.99	4.99
Chrysoikos						
Small Chrysophyceae	14.01	18.68	13.07	4.99	4.99	4.99
Large Chrysophyceae	18.68		5.60	7.92		7.92
Dinobryon	5.76			38.03		
Kephyrion						
Mallomonas	5.78	9.56	6.32	38.06	38.06	38.06
Ochromonas						
Pteridomonas						
Salpingoeca		27.58			16.98	
Spinifiromonas						
Stelexmonas	7.18	2.87	2.16	5.76	5.76	5.76
Stichogloeca						
Synura						
Uroglena		9.34	9.20		7.92	8.49
Epiphyxis						
Total	100.84	92.31	67.60	122.39	78.70	78.70
GROUP 5						
Asterionella	2.82	12.98	9.77	19.85	19.85	19.85
Cyclotella		2.10	4.07		14.20	19.81
Diatoms						
small Diatoms						
large Diatoms						
Fragilaria	1.13			22.07		
Frustula						
Gyrosigma						
Melosira	110.32	147.94	148.24	67.56	73.44	68.43
Navicula						
Nitzchia						
Rhizosolenia	5.64	6.18	24.78	11.45	11.80	13.00
Stephanodiscus	20.36	38.23		45.98	41.79	
Surirella						
Synedra	4.94	5.14	2.57	34.02	34.02	34.02
Tebellaria	12.40	3.40		12.41	12.41	
Stauromies						
Pennate Diatoms						
Total	157.61	215.97	189.43	213.34	207.51	155.11
GROUP 6						
Cryptomonas	166.08	170.81	221.38	55.68	55.68	55.68
Katablepharis	5.75	17.24	20.83	5.76	5.76	5.76
Rhodomonas	126.59	217.97	206.47	13.88	13.88	13.88
Gonyostomun						
Total	298.42	406.02	448.68	75.32	75.32	75.32
GROUP 7						
Ceratium						
Gymnodinium		6.11	11.58		38.79	38.10
Peridinium	1.08		2.38	17.28		16.55
Total	1.08	6.11	13.96	17.28	38.79	54.65

APPENDIX B3. Phytoplankton data from Sipiwesk Lake, 1988.

Group	
1	Cyanophyceae - blue greens
2	Chlorophyceae - greens
3	Euglenophyceae - euglenophytes
4	Chrysophyceae - chrysophytes
5	Bacillariophyceae - diatoms
6	Cryptophyceae - cryptophytes
7	Peridineae - dinoflagellates

SIPIWESK LAKE June 7 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena		22.62	25.40		37.80	67.77
Aphanizomenon	29.52	2.51	2.01	18.17	18.17	16.87
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria	3.42	20.52	3.42	31.96	31.96	31.96
Lyngbya						
Merismopedia						
Microcystis						
Oscillatoria		11.55			39.38	
Radiocystis						
Small bluegreens						
Synechococcus						
Total	32.94	57.20	30.83	50.13	127.31	116.60
GROUP 2						
Ankistrodesmus		1.72	3.45		6.12	6.12
Ankrya		0.36			4.57	
Arthrodesmus						
Botryococcus						
Carteria			25.86			11.98
Chlamydomonas		3.13			11.38	
Chodatella						
Closterium	0.59		0.20	12.37		12.37
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella		19.40			17.28	
Dictyospaerium	3.23	3.59		9.51	9.85	
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	1.87	6.25	1.87	4.99	12.93	4.99
Mougeotia						
Oocystis						
Paulschulzia						
Pediastrum		44.16			51.99	
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus		0.54	2.01		5.23	8.12
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon		6.47	0.11		8.31	3.06
Westella						
Desmidium						
Scourfieldia						
Gyromitus		12.93	4.31		10.46	10.46
Chlorogonium						
Total	5.69	98.55	37.81	26.87	138.12	57.10

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena						
Trachelomonas	9.70	6.79		21.00	21.00	
Phacus						
Total	9.70	6.79	0.00	21.00	21.00	0.00
GROUP 4						
Biocoeca			1.87			7.92
Bitrichia						
Chrysochromulina	29.28	33.33	16.71	13.48	13.48	13.48
Chrysoikos						
Small Chrysophyceae	9.81	18.68	13.54	4.99	4.99	4.99
Large Chrysophyceae	16.81	31.75	29.89	7.92	7.92	7.92
Dinobryon	22.99	45.98	33.76	29.01	29.01	29.01
Kephyrion						
Mallomonas	19.08	0.72	1.44	44.63	19.02	19.02
Ochromonas						
Pteridomonas						
Salpingoeca	6.90	25.29	2.30	8.49	8.49	8.49
Spinifiromonas						
Stelexmonas		0.72			5.76	
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	104.87	156.47	99.51	108.52	88.67	90.83
GROUP 5						
Asterionella	3.84	8.88	3.32	7.26	7.26	7.26
Cyclotella	4.02	10.27	7.17	15.59	15.59	15.59
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria			2.69			29.50
Frustula						
Gyrosigma		10.60	1.66		22.41	39.02
Melosira	22.69	157.36	94.38	65.36	80.94	86.12
Navicula						
Nitzchia						
Rhizosolenia	1.87	7.47	1.87	7.92	7.92	7.92
Stephanodiscus			130.02			48.33
Surirella						
Synedra	4.15	12.25	14.99	18.22	29.81	34.07
Tabellaria		7.80	9.80		12.41	12.41
Stauromies						
Pennate Diatoms						
Total	36.57	214.63	265.90	114.35	176.34	280.22
GROUP 6						
Cryptomonas	230.23	94.27	88.01	63.22	63.22	63.22
Katablepharis	10.78	7.18	7.90	5.76	5.76	5.76
Rhodomonas	96.56	129.17	96.70	13.88	13.88	13.88
Gonyostomun						
Total	337.57	230.62	192.61	82.86	82.86	82.86
GROUP 7						
Ceratium						
Gymnodinium	12.20	48.80	48.60	48.84	48.84	87.39
Peridinium		0.95	1.43		16.55	16.55
Total	12.20	49.75	50.03	48.84	65.39	103.94

SIPIWESK LAKE July 5 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	15.84	94.80	113.20	29.32	118.09	119.89
Aphanizomenon	28.90	6.00	52.10	65.84	16.84	72.20
Aphanocapsa						
Aphanothece	80.10			22.00		
Chroococcus						
Gomphospaeria	37.62	18.24	41.16	31.96	27.92	32.00
Lyngbya	1.58	60.35	16.81	7.49	12.61	9.06
Merismopedia			1.54			7.43
Microcystis		17.96			16.84	
Oscillatoria						
Radiocystis						
Small bluegreens	1.81			1.97		
Synechococcus						
Total	165.85	197.35	224.81	158.58	192.30	240.58
GROUP 2						
Ankistrodesmus						
Ankrya						
Arthrodesmus						
Botryococcus						
Carteria	15.09		51.72	15.89		11.98
Chlamydomonas	30.82	46.55	20.12	13.98	18.03	15.74
Chodatella		0.78	3.59		3.25	5.76
Closterium	17.62		0.99	12.37		12.37
Coelastrum	6.86	0.20		32.00	12.37	
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella	1.08			3.63		
Monoraphidium	51.30	4.20	3.27	16.51	4.99	4.99
Mougeotia						
Oocystis		106.32	19.40		39.88	11.98
Paulschulzia						
Pediastrum		147.12	53.76		56.00	60.98
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus						
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum		0.45			12.92	
Teilingia						
Tetraedon		2.27	0.11		11.37	3.06
Westella			3.45			3.37
Desmidium						
Scourfieldia	4.31			6.59		
Gyromitus	0.72			5.76		
Chlorogonium		4.67			8.53	
Total	127.80	312.56	156.41	106.73	167.34	130.23

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena		4.28	3.70		27.34	32.80
Trachelomonas		5.82	5.40		21.00	17.89
Phacus	9.00			24.29		
Total	9.00	10.10	9.10	24.29	48.34	50.69
GROUP 4						
Biocoeca		3.74	4.46		15.84	16.80
Bitrichia						
Chrysochromulina	15.74	23.92	10.13	13.48	13.48	13.48
Chrysoikos						
Small Chrysophyceae	27.55	21.48	12.14	4.99	4.99	4.99
Large Chrysophyceae	26.15	13.07	11.21	7.92	7.92	7.92
Dinobryon		36.64			14.81	
Kephyrion						
Mallomonas	306.62	0.72	1.90	45.30	19.02	26.28
Ochromonas						
Pteridomonas						
Salpingoeca			4.60			8.49
Spinifiromonas						
Stelexmonas		2.16	0.72		5.76	5.76
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	376.06	101.73	45.16	71.69	81.82	83.72
GROUP 5						
Asterionella		2.52	2.44		7.26	7.26
Cyclotella	3.59	2.36	3.28	4.57	15.59	17.89
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma		1.08			21.77	
Melosira		149.63	216.63		79.43	74.20
Navicula						
Nitzchia						
Rhizosolenia		1.87			7.92	
Stephanodiscus		94.40			48.30	
Surirella						
Synedra	0.59	8.43	2.42	9.78	31.55	30.33
Tabellaria		1.40			12.41	
Stauromies						
Pennate Diatoms						
Total	4.18	261.69	224.77	14.35	224.23	129.68
GROUP 6						
Cryptomonas	45.46	138.49	192.48	63.22	63.22	63.22
Katablepharis	4.31	10.78	9.34	5.76	5.76	5.76
Rhodomonas	250.43	257.33	273.57	13.88	13.88	13.88
Gonyostomun						
Total	300.20	406.60	475.39	82.86	82.86	82.86
GROUP 7						
Ceratium						
Gymnodinium			10.61			37.00
Peridinium	0.48	6.87	89.36	16.55	29.36	57.63
Total	0.48	6.87	99.97	16.55	29.36	94.63

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GENERA	BIOMASS (mg-m^3) Stn. 1	Stn. 2	Stn. 3	ESD Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	189.39	130.10	197.26	66.92	62.24	71.72
Aphanizomenon	1112.61	170.88	357.95	72.55	65.46	77.04
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria	117.72	13.08	26.50	49.99	49.99	36.99
Lyngbya			3.38			9.65
Merismopedia	5.75		8.26	4.57		4.57
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens	1.44	1.15		2.48	2.48	
Synechococcus						
Total	1426.91	315.21	593.35	196.51	180.17	199.97
GROUP 2						
Ankistrodesmus	12.32		0.75	4.06		4.06
Ankrya	1.29		1.29	4.86		4.86
Arthrodesmus						
Botryococcus		12.40	7.89		39.98	33.52
Carteria						
Chlamydomonas	9.55	18.39	19.04	10.34	17.05	18.84
Chodatella						
Closterium	7.91	16.97	9.05	14.87	47.02	25.86
Coelastrum	3.43		3.43	32.00		32.00
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium						
Elaktothrix			0.57			4.24
Eudorina						
Gloecoccus	2.93			4.02		
Kichnerella	0.60	1.31	1.21	2.37	4.74	2.37
Monoraphidium	6.54	1.40		4.99	4.99	
Mougeotia						
Oocystis	1.21	1.21	6.03	4.31	4.31	4.31
Paulschulzia	4.12			34.00		
Pediastrum	2.06	26.81	2.06	26.99	40.00	26.99
Planctonema			4.31			4.57
Pyramidomonas						
Quadrigula						
Scenedesmus		2.16	1.29		4.57	4.41
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon			0.32			3.06
Westella	19.83	19.83		6.03	6.03	
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium						
Total	71.79	100.48	57.24	148.84	168.69	169.09

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	3.70			32.80		
Trachelomonas	1.94	0.97	1.94	21.00	21.00	21.00
Phacus	0.08					
Total	5.72	0.97	1.94	53.80	21.00	21.00
GROUP 4						
Biocoeca	6.47	5.03		8.31	8.74	
Bitrichia						
Chrysochromulina	0.47	3.88	6.07	4.99	8.02	4.99
Chrysoikos						
Small Chrysophyceae	48.56	41.09	31.75	4.99	4.99	4.99
Large Chrysophyceae	36.85	29.10	8.05	8.02	8.02	8.12
Dinobryon						
Kephyrion						
Mallomonas	22.40	2.13	0.43	36.72	15.96	16.01
Ochromonas						
Pteridomonas						
Salpingoeca		6.25	2.08		6.52	6.52
Spinifiromonas						
Stelexmonas		1.44			5.76	
Stichogloeca						
Synura	8.04			42.50		
Uroglena						
Epiphyxis						
Total	122.79	88.92	48.38	105.53	58.01	40.63
GROUP 5						
Asterionella		0.56	7.56		8.74	12.61
Cyclotella	2.17	1.00	4.45	8.74	13.60	13.31
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	302.85	50.71	79.06	51.61	56.50	73.60
Navicula						
Nitzchia						
Rhizosolenia		5.17	10.06		8.83	13.88
Stephanodiscus						
Surirella						
Synedra		15.41	7.64		34.10	10.29
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	305.02	72.85	108.77	60.35	121.77	123.69
GROUP 6						
Cryptomonas	150.77	203.10	38.98	68.85	68.85	68.85
Katablepharis	36.64	8.62	17.24	5.76	5.76	5.76
Rhodomonas	283.91	205.18	134.63	13.88	13.88	13.88
Gonyostomun						
Total	471.32	416.90	190.85	88.49	88.49	88.49
GROUP 7						
Ceratium	20.00			45.71		
Gymnodinium			7.33			32.71
Peridinium	23.97	7.99	53.62	42.41	42.41	58.12
Total	43.97	7.99	60.95	88.12	42.41	90.83

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	120.40	5.84	41.40	68.79	30.32	115.58
Aphanizomenon	13640.85	57.29	60.00	72.53	21.25	21.22
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria	321.60	46.44	6.70	40.00	41.97	40.00
Lyngbya		4.09			7.13	
Merismopedia		6.47	2.51		6.59	4.57
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	14082.85	120.13	110.61	181.32	107.26	181.37
GROUP 2						
Ankistrodesmus						
Ankrya			0.72			5.76
Arthrodesmus						
Botryococcus	4.88			35.99		
Carteria						
Chlamydomonas	16.81	64.44	3.05	7.92	10.96	9.80
Chodatella						
Closterium	5.94	0.40	0.20	12.37	12.37	12.37
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella		1.54	0.06		7.43	2.48
Dictyospaerium		2.01	3.88		4.06	3.86
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella		0.43			2.67	
Monoraphidium	2.60	2.83	3.34	6.90	6.73	6.73
Mougeotia						
Oocystis		2.37	302.80		8.57	53.67
Paulschulzia						
Pediastrum	117.76	23.16	16.64	51.99	48.00	42.99
Planctonema		89.08			18.09	
Pyramidomonas	0.22		0.21	12.77		12.61
Quadrigula						
Scenedesmus		2.37	1.62		8.57	7.55
Schroederia						
Small greens	0.30	0.14		3.42	3.37	
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon			0.25			4.06
Westella						
Desmidium						
Scourfieldia						
Gyromitus		4.31			10.46	
Chlorogonium						
Total	148.51	193.08	332.77	131.36	141.28	161.88

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	2.14	6.42		27.34	27.34	
Trachelomonas	1.83	1.83	2.44	17.99	17.99	17.99
Phacus						
Total	3.97	8.25	2.44	45.33	45.33	17.99
GROUP 4						
Biocoeca	4.60			8.49		
Bitrichia						
Chrysochromulina	33.80	44.61	6.00	13.48	13.48	8.85
Chrysoikos						
Small Chrysophyceae	2.80	15.88	19.61	4.99	4.99	4.99
Large Chrysophyceae	13.07	33.62	29.89	7.92	7.92	7.92
Dinobryon						
Kephyrion						
Mallomonas	5.06		1.40	37.15		37.15
Ochromonas						
Pteridomonas						
Salpingoeca	50.58	2.30	4.60	8.49	8.49	8.49
Spinifiromonas			2.30			8.49
Stelexmonas			11.49			5.76
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	109.91	96.41	75.29	80.52	34.88	81.65
GROUP 5						
Asterionella	2.11	2.59	1.88	9.44	19.85	19.85
Cyclotella		6.00	9.02		20.63	19.67
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	7.22	81.45	86.82	41.00	61.55	76.96
Navicula						
Nitzchia						
Rhizosolenia	10.42		25.86	11.15		13.18
Stephanodiscus	145.16			41.79		
Surirella						
Synedra		11.00	21.08		12.41	14.81
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	164.91	101.04	144.66	103.38	114.44	144.47
GROUP 6						
Cryptomonas	29.24	195.98	80.56	58.85	58.85	58.85
Katablepharis	17.96	11.49	24.43	5.76	5.76	5.76
Rhodomonas	27.87	185.49	131.90	13.88	13.88	13.88
Gonyostomun						
Total	75.07	392.96	236.89	78.49	78.49	78.49
GROUP 7						
Ceratium	90.00	30.00		45.71	45.71	
Gymnodinium		5.79	6.53		38.10	39.65
Peridinium						
Total	90.00	35.79	6.53	45.71	83.81	39.65

APPENDIX B4. Phytoplankton data from Split Lake, 1988.

Group	
1	Cyanophyceae - blue greens
2	Chlorophyceae - greens
3	Euglenophyceae - euglenophytes
4	Chrysophyceae - chrysophytes
5	Bacillariophyceae - diatoms
6	Cryptophyceae - cryptophytes
7	Peridineae - dinoflagellates

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GENERA	BIOMASS (mg-m^3)			ESD			
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3	
GROUP 1							
Anabaena		9.55			31.21		
Aphanizomenon	0.38	0.70		15.37	13.07		
Aphanocapsa							
Aphanothece							
Chroococcus							
Gomphospaeria							
Lyngbya		17.60	24.14		8.74	8.12	
Merismopedia							
Microcystis							
Oscillatoria							
Radiocystis							
Small bluegreens							
Synechococcus							
Total	0.38	27.85	24.14	15.37	53.02	8.12	
GROUP 2							
Ankistrodesmus	0.93			4.99			
Ankrya		0.40			4.72		
Arthrodesmus							
Botryococcus							
Carteria							
Chlamydomonas	27.30		7.47	8.99		9.98	
Chodatella	0.86			4.24			
Closterium	0.21			12.65			
Coelastrum							
Collodictyon							
Cosmarium							
Crucigeniella			0.90			6.20	
Dictyospaerium							
Elaktothrix							
Eudorina							
Gloeobotrys							
Kichnerella							
Monoraphidium	2.84	5.28	5.39		13.71	9.17	4.57
Mougeotia			12.67				21.60
Oocystis			4.31				10.46
Paulschulzia							
Pediastrum							
Planctonema							
Pyramidomonas							
Quadrigula							
Scenedesmus							
Schroederia							
Small greens							
Spirogrya							
Sponylosium							
Staurastrum							
Teilingia							
Tetraedon							
Westella							
Desmidium							
Scourfieldia							
Gyromitus		12.93	4.31			10.46	10.46
Chlorogonium							
Total	32.14	18.61	35.05	30.87	18.43	35.81	

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena			2.14			27.34
Trachelomonas	3.66	1.83		17.99	17.99	
Phacus						
Total	3.66	1.83	2.14	17.99	17.99	27.34
GROUP 4						
Biocoeca						
Bitrichia						
Chrysochromulina	59.88	50.11	120.94	13.48	13.73	13.48
Chrysoikos						
Small Chrysophyceae	32.22	16.81	18.68	4.99	4.99	4.99
Large Chrysophyceae	24.28	9.34	9.34	7.92	7.92	7.92
Dinobryon	37.73	71.01	21.91	57.68	56.37	36.78
Kephyrion						
Mallomonas		1.62	0.95		17.28	16.55
Ochromonas						
Pteridomonas	2.73			8.99		
Salpingoeca	9.20		13.79	8.49		8.49
Spinifiromonas		2.30			8.49	
Stelexmonas	16.52	33.76	9.34	5.76	5.76	5.76
Stichogloeca						
Synura	3.40	7.19	6.75	31.90	44.49	43.91
Uroglena		31.75	22.41		7.92	7.92
Epiphyxis						
Total	185.96	223.89	224.11	139.21	166.95	145.80
GROUP 5						
Asterionella	4.73	5.68	16.39	19.85	19.85	19.85
Cyclotella	4.47	7.27	4.59	18.17	17.76	18.17
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma	4.82			35.84		
Melosira	644.52	706.96	3181.21	121.30	126.28	127.31
Navicula						
Nitzchia						
Rhizosolenia		14.37			12.41	
Stephanodiscus	20.36	38.20	15.28	45.98	41.79	41.79
Surirella						
Synedra	58.05	49.80	4.80	38.76	36.25	33.30
Tabellaria						
Stauromies						
Pennate Diatoms			2.51			8.74
Total	736.95	822.28	3224.78	279.90	254.34	249.16
GROUP 6						
Cryptomonas	44.59	37.39	57.65	57.93	57.93	57.93
Katablepharis	36.64	17.96	14.37	6.59	5.76	5.76
Rhodomonas	289.52	172.85	84.34	13.88	13.88	13.88
Gonyostomun						
Total	370.75	228.20	156.36	78.40	77.57	77.57
GROUP 7						
Ceratium						
Gymnodinium	64.22	70.76	4.11	86.91	84.83	33.99
Peridinium	4.70	9.59		46.45	46.73	
Total	68.92	80.35	4.11	133.36	131.56	33.99

SPLIT LAKE July 4 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	30.76	75.04	44.94	75.34	70.62	77.75
Aphanizomenon	0.48	17.89	0.94	13.18	10.20	13.09
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria	3.10			30.93		
Lyngbya	43.10	7.33	15.95	9.14	8.66	8.91
Merismopedia	1.54			7.43		
Microcystis		66.09			26.00	
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	78.98	166.35	61.83	136.02	115.48	99.75
GROUP 2						
Ankistrodesmus						
Ankrya	0.47			4.99		
Arthrodesmus						
Botryococcus						
Carteria						
Chlamydomonas	8.26	38.65	9.37	6.03	15.61	24.10
Chodatella						
Closterium		0.20			12.37	
Coelastrum	1.44	2.88		23.96	23.96	
Collodictyon						
Cosmarium	1.00			21.22		
Crucigeniella						
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella		0.65			3.06	
Nonoraphidium	2.88	6.40	4.31	9.05	8.81	4.57
Nougeotia		18.00			55.60	
Oocystis		0.54	2.16		5.23	5.23
Paulschulzia						
Pediastrum	39.24			49.99		
Planctonema	3.59			9.85		
Pyramidomonas						
Quadrigula						
Scenedesmus		0.50			5.11	
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon		0.22	0.11		3.86	3.06
Westella						
Desmidium						
Scourfieldia						
Gyromitus		51.72	4.31		10.46	10.46
Chlorogonium						
Total	56.88	119.76	20.26	125.09	144.07	47.42

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	2.14	2.14	10.70	27.34	27.34	27.34
Trachelomonas	2.88		1.83	20.93		17.99
Phacus						
Total	5.02	2.14	12.53	48.27	27.34	45.33
GROUP 4						
Biocoeca			2.73			8.99
Bitrichia						
Chrysochromulina	18.21	22.88	19.47	4.99	4.99	13.48
Chrysoikos						
Small Chrysophyceae	23.35	32.69	18.68	4.99	4.99	4.99
Large Chrysophyceae		16.81	11.21		7.92	7.92
Dinobryon		28.74	70.41		12.41	26.29
Kephyrion						
Mallomonas	0.48		2.64	16.55		35.57
Ochromonas	4.67			10.75		
Pteridomonas						
Salpingoeca	11.49		18.39	8.49		8.49
Spinifiromonas						
Stelexmonas	29.45	23.71	7.90	5.76	5.76	5.76
Stichogloeca						
Synura						
Uroglena	18.68			7.92		
Epiphyxis						
Total	106.33	124.83	151.43	59.45	36.07	111.49
GROUP 5						
Asterionella	12.76	7.35	25.54	20.19	9.78	20.19
Cyclotella	3.87	2.20		19.67	12.41	
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria			3.84			33.22
Frustula						
Gyrosigma						
Melosira	138.51	57.54	1761.54	68.96	63.21	126.55
Navicula						
Nitzchia						
Rhizosolenia			24.14			11.71
Stephanodiscus		50.90	45.84		45.98	41.79
Surirella						
Synedra	5.43	3.12	12.07	29.82	29.82	32.36
Tabellaria	2.20			12.41		
Stauromies						
Pennate Diatoms						
Total	162.77	121.11	1872.97	151.05	161.20	265.82
GROUP 6						
Cryptomonas	44.64	286.73	12.58	56.70	56.70	36.22
Katablepharis	8.62	13.65	3.59	20.48	5.76	5.76
Rhodomonas	192.10	426.59	160.49	13.88	13.88	13.88
Gonyostomun						
Total	245.36	726.97	176.66	91.06	76.34	55.86
GROUP 7						
Ceratium						
Gymnodinium	39.01	7.90	12.20	49.97	12.81	48.84
Peridinium	2.85	0.95		16.55	16.55	
Total	41.86	8.85	12.20	66.52	29.36	48.84

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	41.65	50.20	15.08	62.05	36.33	41.60
Aphanizomenon	16.06	38.50	1.66	16.86	16.84	17.40
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria	39.04	24.01		35.99	32.00	
Lyngbya	7.62	4.09	2.16	7.97	7.13	6.59
Merismopedia	3.95	5.03		4.57	4.57	
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	108.32	121.83	18.90	127.44	96.87	65.59
GROUP 2						
Ankistrodesmus	0.24		1.51	4.02		4.06
Ankrya	0.18			3.63		
Arthrodesmus						
Botryococcus	20.58	5.52		34.00	26.00	
Carteria						
Chlamydomonas	17.68	62.46	23.13	31.97	19.45	20.93
Chodatella						
Closterium	5.62	10.42		44.57	45.04	
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella	1.80			4.57		
Dictyospaerium	0.43			3.06		
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella	0.50	0.65		2.37	2.37	
Monoraphidium	0.11	4.27		3.06	4.06	
Mougeotia						
Oocystis	2.48			6.03		
Paulschulzia	28.73	1.84	15.48	38.00	26.00	41.97
Pediastrum	30.58	15.50		46.00	41.98	
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus						
Schroederia						
Small greens						
Spirogrya						
Sponylosium		0.25			4.06	
Staurastrum						
Teilingia						
Tetraedon		0.14			3.37	
Westella						
Desmidium						
Scourfieldia						
Gyromitus		155.17	4.31		10.46	10.46
Chlorogonium						
Gloecoccus		30.93			13.99	
Total	108.93	287.15	44.43	221.28	196.78	77.42

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	1.25			22.85		
Trachelomonas	20.37	3.88	26.19	21.00	21.00	21.00
Phacus						
Total	21.62	3.88	26.19	43.85	21.00	21.00
GROUP 4						
Biocoeca	4.60	2.30	4.60	8.49	8.49	8.49
Bitrichia						
Chrysochromulina	0.47	1.87	0.93	4.99	4.99	4.99
Chrysoikos						
Small Chrysophyceae	20.08	28.48	294.18	4.99	4.99	10.75
Large Chrysophyceae	36.21			8.12		
Dinobryon	8.66			13.21		
Kephyrion						
Mallomonas	4.23	7.55	2.22	35.80	27.07	35.81
Ochromonas						
Pteridomonas						
Salpingoeca	5.60	29.89	3.74	7.92	7.92	7.92
Spinifiromonas	2.73			8.99		
Stelexmonas						
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	82.58	70.09	305.67	92.51	53.46	67.96
GROUP 5						
Asterionella		0.14	0.77		8.74	8.74
Cyclotella	0.21	2.75	0.77	8.74	13.46	8.74
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	71.77	47.51	290.90	67.98	67.77	69.13
Navicula						
Nitzchia						
Rhizosolenia						
Stephanodiscus	7.63	9.80		41.77	45.40	
Surirella						
Synedra	6.08	4.20	1.76	31.28	34.45	31.28
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	85.69	64.40	294.20	149.77	169.82	117.89
GROUP 6						
Cryptomonas	171.31	122.04	50.14	53.27	53.27	35.08
Katablepharis	10.06	3.59	14.37	5.76	5.76	5.76
Rhodomonas	395.41	698.14	75.21	13.88	13.88	14.71
Gonyostomun						
Total	576.78	823.77	139.72	72.91	72.91	55.55
GROUP 7						
Ceratium						
Gymnodinium	41.06			36.59		
Peridinium	2.58	1.94	3.23	18.34	18.34	18.34
Total	43.64	1.94	3.23	54.93	18.34	18.34

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	18.84	26.31	2.79	44.81	51.51	29.85
Aphanizomenon	18.56	47.43	0.39	64.46	15.53	12.32
Aphanocapsa						
Aphanothece		2.73			8.99	
Chroococcus						
Gomphospaeria	55.80	31.80		38.98	31.20	
Lyngbya	3.88	2.73	2.51	10.10	8.99	8.74
Merismopedia		5.93			5.23	
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	97.08	116.93	5.69	158.35	121.45	50.91
GROUP 2						
Ankistrodesmus						
Ankrya		4.31			8.31	
Arthrodesmus						
Botryococcus	16.65			43.00		
Carteria			10.24			13.96
Chlamydomonas	66.10	10.67	7.47	23.41	18.82	9.98
Chodatella	0.11			3.06		
Closterium	0.10	1.98		7.71	12.37	
Coelastrum	2.54	5.76		28.95	23.96	
Collodictyon						
Cosmarium						
Crucigeniella		1.29			4.86	
Dictyospaerium						
Elaktothrix	69.54			11.89		
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	5.00	26.15	1.12	7.12	11.55	7.12
Mougeotia						
Oocystis	5.75	3.16		11.52	7.49	
Paulschulzia			8.32			42.99
Pediastrum	20.38			46.00		
Planctonema		40.73			10.64	
Pyramidomonas						
Quadrigula						
Scenedesmus	3.23			7.55		
Schroederia						
Small greens						
Spirogrya	29.54			41.31		
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon						
Westella						
Desmidium						
Scourfieldia						
Gyromitus	176.73	129.31	94.83	10.46	10.46	10.46
Chlorogonium						
Gloecoccus		51.72			11.98	
Total	395.67	275.08	121.98	241.98	108.46	84.51

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	2.14		2.14	27.34		27.34
Trachelomonas	9.15	1.22	18.91	17.99	17.99	17.99
Phacus						
Total	11.29	1.22	21.05	45.33	17.99	45.33
GROUP 4						
Biocoeca			2.30			8.49
Bitrichia						
Chrysochromulina	20.94	20.48	22.81	13.48	13.48	13.48
Chrysoikos						
Small Chrysophyceae	27.55	11.21	8.87	4.99	4.99	4.99
Large Chrysophyceae	18.39		13.07	8.49		7.92
Dinobryon		118.54			14.20	
Kephyrion						
Mallomonas		1.79	2.24		36.57	36.46
Ochromonas		1.26			6.94	
Pteridomonas						
Salpingoeca						
Spinifiromonas						
Stelexmonas		7.18	11.49		5.76	5.76
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	66.88	160.46	60.78	26.96	81.94	77.10
GROUP 5						
Asterionella	2.11	4.05	0.62	9.44	19.85	9.44
Cyclotella	18.86	27.35	0.61	23.38	20.53	14.28
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma			4.68			24.61
Melosira	19.20	20.51	48.18	70.96	71.93	62.55
Navicula						
Nitzchia						
Rhizosolenia			4.31			7.26
Stephanodiscus						
Surirella						
Synedra	3.37	0.57	0.79	31.94	7.49	7.49
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	43.54	52.48	59.19	135.72	119.80	125.63
GROUP 6						
Cryptomonas	151.22	205.30	59.49	53.76	53.76	34.07
Katablepharis	6.47	3.27	2.16	5.76	4.06	5.76
Rhodomonas	165.66	283.48	121.26	13.88	13.88	13.88
Gonyostomun						
Total	323.35	492.05	182.91	73.40	71.70	53.71
GROUP 7						
Ceratium						
Gymnodinium	13.06		16.71	39.65		52.37
Peridinium	6.18	0.48	0.95	16.55	16.55	16.55
Total	19.24	0.48	17.66	56.20	16.55	68.92

APPENDIX B5. Phytoplankton data from Stephens Lake, 1988.

Group	
1	Cyanophyceae - blue greens
2	Chlorophyceae - greens
3	Euglenophyceae - euglenophytes
4	Chrysophyceae - chrysophytes
5	Bacillariophyceae - diatoms
6	Cryptophyceae - cryptophytes
7	Peridineae - dinoflagellates

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena		16.92			29.97	
Aphanizomenon	8.00	9.05	8.00	21.22	21.25	21.22
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria		4.88	4.88		35.99	35.99
Lyngbya	7.97	5.32	21.55	8.91	8.91	8.31
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	15.97	36.17	34.43	30.13	96.12	65.52
GROUP 2						
Ankistrodesmus						
Ankrya						
Arthrodesmus						
Botryococcus						
Carteria	1.01			6.44		
Chlamydomonas	5.50	6.47	0.83	16.78	5.76	6.03
Chodatella		0.43			2.25	
Closterium	5.02	0.59	0.20	36.33	12.37	12.37
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium		5.78	6.07		9.56	4.99
Mougeotia						
Oocystis		1.54			7.43	
Paulschulzia	3.76	7.74		32.99	41.97	
Pediastrum		13.88			50.99	
Planctoneme						
Pyramidomonas						
Quadrigula						
Scenedesmus		6.75			16.69	
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon		0.11			3.06	
Westella						
Desmidium						
Scourfieldia						
Gyromitus	4.31			10.46		
Chlorogonium	2.26			16.28		
Total	21.86	43.29	7.10	119.28	150.08	23.39

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena			2.14			27.34
Trachelomonas	3.05	1.22		17.99	17.99	
Phacus		1.30			23.15	
Total	3.05	2.52	2.14	17.99	41.14	27.34
GROUP 4						
Biocoeca						
Bitrichia	1.26			6.94		
Chrysochromulina	114.12	91.52	73.99	13.48	14.25	13.48
Chrysoikos						
Small Chrysophyceae	8.87	23.81	15.88	4.99	4.99	4.99
Large Chrysophyceae			1.87			7.92
Dinobryon	190.38	126.44	43.10	26.61	27.22	12.41
Kephyrion						
Mallomonas		0.95			16.55	
Ochromonas	11.49	5.75	2.87	9.14	9.14	9.14
Pteridomonas						
Salpingoeca			9.20			8.49
Spinifiromonas		2.01	2.30		8.12	8.49
Stelexmonas	2.87	21.55	35.20	5.76	5.76	5.76
Stichogloeca						
Synura	494.26	9.20	16.37	8.49	8.49	44.48
Uroglena	36.15	36.78	29.89	55.47	8.49	8.49
Epiphyxis						
Total	859.40	318.01	230.67	130.88	103.01	123.65
GROUP 5						
Asterionella	2.12	13.96	4.31	10.41	19.01	19.01
Cyclotella	1.00	10.24	12.02	12.41	18.44	20.31
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria		1.22	10.40		22.67	46.31
Frustula						
Gyrosigma	14.40		28.80	51.62		51.62
Melosira	549.62	845.84	491.91	86.39	118.89	116.56
Navicula						
Nitzchia						
Rhizosolenia		5.75	12.07		11.52	11.71
Stephanodiscus		38.20	20.36		41.79	45.98
Surirella						
Synedra	30.10	81.57	114.47	37.32	36.66	37.32
Tabellaria		1.80			12.41	
Stauromies						
Pennate Diatoms						
Total	597.24	998.58	694.34	198.15	281.39	348.82
GROUP 6						
Cryptomonas	255.34	71.85	47.02	79.06	68.60	68.56
Katablepharis	16.52	28.74	27.30	5.76	5.76	5.76
Rhodomonas	595.84	222.42	206.33	13.88	13.88	13.88
Gonyostomun						
Total	867.70	323.01	280.65	98.70	88.24	88.20
GROUP 7						
Ceratium						
Gymnodinium	205.75	65.26	93.45	34.00	82.84	99.92
Peridinium	5.70	3.80	2.85	16.55	16.55	16.55
Total	211.45	69.06	96.30	50.55	99.39	116.47

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	47.96	7.14	0.71	72.94	28.33	13.15
Aphanizomenon	36.46		3.14	15.53		15.53
Aphanocapsa			15.09			15.89
Aphanothece						
Chroococcus						
Gomphospaeria						
Lyngbya	113.15	20.12	10.06	11.27	8.74	8.74
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	197.57	27.26	29.00	99.74	37.07	53.31
GROUP 2						
Ankistrodesmus	11.21			9.98		
Ankrya						
Arthrodesmus						
Botryococcus						
Carteria						
Chlamydomonas	3.59	8.26	3.81	15.44	13.00	11.70
Chodatella			0.54			5.23
Closterium		0.20	0.40		12.37	12.37
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella			1.54			7.43
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	4.70	1.76	3.27	12.42	4.06	4.06
Mougeotia						
Oocystis						
Paulschulzia	17.12			31.98		
Pediastrum						
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus		6.47	7.11		11.98	8.57
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon		0.11			3.06	
Westella						
Desmidium						
Scourfieldia						
Gyromitus		12.93			10.46	
Chlorogonium						
Total	36.62	29.73	16.67	69.82	54.93	49.36

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia	2.80			9.06		
Euglena	42.80		2.14	58.90		27.34
Trachelomonas	3.05	3.05	5.49	17.99	17.99	17.99
Phacus	1.50			24.29		
Total	50.15	3.05	7.63	110.24	17.99	45.33
GROUP 4						
Biocoeca			6.90			16.98
Bitrichia						
Chrysochromulina	33.62	34.92	34.09	4.99	13.48	4.99
Chrysoikos						
Small Chrysophyceae	116.74	10.27	22.41	10.75	4.99	4.99
Large Chrysophyceae						
Dinobryon	1948.03	161.64	33.98	108.14	14.20	23.58
Kephyrion						
Mallomonas			0.48			16.55
Ochromonas						
Pteridomonas						
Salpingoeca						
Spinifiromonas						
Stelexmonas		7.90	9.34		5.76	5.76
Stichogloeca						
Synura	82.17			50.47		
Uroglena	80.46	13.07	18.68	8.12	7.92	7.92
Epiphyxis						
Total	2261.02	227.80	125.88	182.47	46.35	80.77
GROUP 5						
Asterionella	24.52	3.41	14.07	19.85	19.85	19.85
Cyclotella	0.30		4.95	9.85		20.23
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	4.55	60.46	346.48	22.15	61.68	63.15
Navicula						
Nitzchia						
Rhizosolenia	14.37		11.78	12.41		11.61
Stephanodiscus						
Surirella						
Synedra	6.01	5.08	11.67	33.53	33.53	33.53
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	49.75	68.95	388.95	97.79	115.06	148.37
GROUP 6						
Cryptomonas	29.92	85.40	99.19	84.61	60.65	61.45
Katablepharis		2.87	12.21		5.76	5.76
Rhodomonas	100.72	448.28	244.25	13.88	13.88	13.88
Gonyostomun						
Total	130.64	536.55	355.65	98.49	80.29	81.09
GROUP 7						
Ceratium						
Gymnodinium		19.38	5.79		61.25	38.10
Peridinium	0.48	0.95	0.93	16.55	16.55	16.44
Total	0.48	20.33	6.72	16.55	77.80	54.54

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	345.35	44.46	49.96	80.50	73.38	70.99
Aphanizomenon	541.14	10.25	10.50	72.80	17.92	16.84
Aphanocapsa		1086.22	517.25		23.96	23.96
Aphanothece						
Chroococcus						
Gomphospaeria		10.80	21.60		32.52	32.52
Lyngbya	21.48		8.98	7.60		7.82
Merismopedia	2.16	3.23	2.16	4.57	4.57	4.57
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	910.13	1154.96	610.45	165.47	152.35	156.70
GROUP 2						
Ankistrodesmus	1.51	2.59	0.43	3.86	3.86	3.86
Ankrya						
Arthrodesmus						
Botryococcus	6.86		24.01	32.00		32.00
Carteria						
Chlamydomonas	4.60	61.86	4.67	8.49	15.33	10.75
Chodatella						
Closterium		0.69	0.34		14.87	14.87
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella			2.37			6.81
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloecoccus		6.47			11.78	
Kichnerella		2.21	0.65		2.37	2.37
Monoraphidium	2.44		2.16	8.36		5.23
Mougeotia						
Oocystis	0.57	38.79	104.02	4.24	15.09	24.00
Paulschulzia		33.50	16.65		40.00	43.00
Pediastrum	8.92	16.65		44.00	43.00	
Planctonema		1.44			4.57	
Pyramidomonas						
Quadrigula						
Scenedesmus			6.47			11.98
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum	2.00			26.73		
Teilingia						
Tetraedon			0.11			3.06
Westella			77.59			9.51
Desmidium						
Scourfieldia						
Gyromitus		237.07	94.83		10.46	10.80
Chlorogonium						
Total	26.90	401.27	334.30	127.68	161.33	178.24

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena			2.61			29.23
Trachelomonas		6.46	8.62		19.00	19.00
Phacus						
Total	0.00	6.46	11.23	0.00	19.00	48.23
GROUP 4						
Biocoeca	2.08		4.67	8.21		17.04
Bitrichia						
Chrysochromulina	17.53	6.54	3.74	13.98	4.99	4.99
Chrysoikos						
Small Chrysophyceae	18.21	41.09	42.96	4.99	4.99	4.99
Large Chrysophyceae	82.18	22.13	16.09	7.92	8.12	8.12
Dinobryon	250.17		10.78	117.88		14.20
Kephyrion	0.54			5.23		
Mallomonas	17.97			41.89		
Ochromonas	1.40			7.19		
Pteridomonas						
Salpingoeca	13.07	3.02		6.44	6.44	
Spinifiromonas	0.81		1.01	6.00		6.44
Stelexmonas	0.72			5.76		
Stichogloeca						
Synura	5.63			41.71		
Uroglena						
Epiphyxis						
Total	410.31	72.78	79.25	267.20	24.54	55.78
GROUP 5						
Asterionella	19.28		1.51	8.44		8.44
Cyclotella	0.28	0.70		8.74	8.74	
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	79.21	91.26	3728.06	69.24	113.12	71.34
Navicula						
Nitzchia						
Rhizosolenia	5.68		15.23	9.10		12.65
Stephanodiscus		16.58			42.94	
Surirella						
Synedra	9.80	14.07	8.17	23.73	42.00	42.00
Tabellaria	3.24			11.98		
Stauromies						
Pennate Diatoms						
Total	117.49	122.61	3752.97	131.23	206.80	134.43
GROUP 6						
Cryptomonas	51.86	184.14	160.59	37.53	57.69	55.89
Katablepharis	5.75	13.65	8.62	5.76	5.76	5.76
Rhodomonas	47.13	314.09	309.05	13.88	13.88	13.88
Gonyostomun						
Total	104.74	511.88	478.26	57.17	77.33	75.53
GROUP 7						
Ceratium	120.00			45.71		
Gymnodinium	6.54	11.35	12.00	39.67	14.45	38.55
Peridinium	11.76	40.14	32.94	65.37	63.75	22.67
Total	138.30	51.49	44.94	150.75	78.20	61.22

STEPHENS LAKE September 6 1988

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	198.30	2.12	25.12	120.86	27.25	82.66
Aphanizomenon	230.36	7.84	4.90	72.99	15.53	12.32
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria	11.48	73.20	20.55	37.99	35.99	33.98
Lyngbya	221.27	25.14	3.38	8.74	8.74	9.65
Merismopedia	24.43	2.73	2.87	4.57	5.66	5.76
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	685.84	111.03	56.82	245.15	93.17	144.37
GROUP 2						
Ankistrodesmus	19.00			6.03		
Ankrya						
Arthrodesmus						
Botryococcus	11.58		4.11	48.00		33.98
Carteria			10.06			13.88
Chlamydomonas	0.86	51.98	0.83	4.86	17.05	6.03
Chodatella						
Closterium		1.98	0.20		12.37	12.37
Coelastrum		2.55	2.89		29.00	23.99
Collodictyon						
Cosmarium						
Crucigeniella			0.86			4.86
Dictyospaerium		1.95			4.02	
Elaktothrix	1.44			4.57		
Eudorina						
Gloecoccus			6.47			11.98
Kichnerella						
Monoraphidium	1.61	4.06	1.69	6.73	0.25	7.12
Mougeotia						
Oocystis		21.55			12.41	
Paulschulzia	12.42		2.06	39.00		26.99
Pediastrum	12.32	29.44	29.44	49.00	51.99	51.99
Planctonema			113.15			12.61
Pyramidomonas						
Quadrigula						
Scenedesmus		2.37	1.62		8.57	7.55
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon			0.11			3.06
Westella						
Desmidium						
Scourfieldia						
Gyromitus		159.48	77.59		10.46	10.46
Chlorogonium						
Total	59.23	275.36	251.08	158.19	146.12	226.87

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena						
Trachelomonas	3.66	22.57	6.71	17.99	17.99	17.99
Phacus						
Total	3.66	22.57	6.71	17.99	17.99	17.99
GROUP 4						
Biocoeca		2.30	6.90		8.49	8.49
Bitrichia						
Chrysochromulina	46.56	46.56	43.82	13.48	13.48	13.48
Chrysoikos						
Small Chrysophyceae	22.41	27.08	23.35	4.99	4.99	4.99
Large Chrysophyceae	14.94	7.47	15.09	7.92	7.92	8.31
Dinobryon	38.09	10.78		52.23	14.20	
Kephyrion	1.22			6.87		
Hallomonas	6.07	2.13	4.74	35.34	35.34	10.80
Ochromonas						
Pteridomonas						
Salpingoeca	4.60		6.90	8.49		8.49
Spinifiromonas			2.30			8.49
Stelexmonas		10.78	17.96		5.76	5.76
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	133.89	107.10	121.06	129.32	90.18	68.81
GROUP 5						
Asterionella	66.26	1.32	8.10	19.85	9.44	19.85
Cyclotella	13.73	6.31	3.41	19.67	19.67	20.53
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma	1.16		4.83	22.29		35.85
Melosira	287.56	54.32	204.07	73.87	71.29	70.97
Navicula						
Nitzchia						
Rhizosolenia	36.21	5.64	12.07	11.71	11.45	11.71
Stephanodiscus						
Surirella						
Synedra	13.46	3.78	5.85	34.44	10.64	32.10
Tabellaria						
Stauromies						
Pennate Diatoms						
Total	418.38	71.37	238.33	181.83	122.49	191.01
GROUP 6						
Cryptomonas	139.89	292.37	176.57	57.35	57.35	53.76
Katablepharis	8.62	2.16	5.03	5.76	5.76	5.76
Rhodomonas	87.07	215.80	123.14	13.88	13.88	13.88
Gonyostomun						
Total	235.58	510.33	304.74	76.99	76.99	73.40
GROUP 7						
Ceratium	70.00			45.71		
Gymnodinium	5.79	5.79		38.10	38.10	
Peridinium	0.48	0.48		16.55	16.55	
Total	76.27	6.27	0.00	100.36	54.65	0.00

APPENDIX B6. Phytoplankton data from Threepoint Lake, 1988.

Group	
1	Cyanophyceae - blue greens
2	Chlorophyceae - greens
3	Euglenophyceae - euglenophytes
4	Chrysophyceae - chrysophytes
5	Bacillariophyceae - diatoms
6	Cryptophyceae - cryptophytes
7	Peridineae - dinoflagellates

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	23.90		12.58	28.37		64.70
Aphanizomenon	1.20	0.25	2.20	17.89	10.61	17.38
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria						
Lyngbya	7.54		7.62	12.61		10.04
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	32.64	0.25	22.40	58.87	10.61	92.12
GROUP 2						
Ankistrodesmus						
Ankrya	0.36			4.57		
Arthrodesmus						
Botryococcus						
Carteria	1.87			7.92		
Chlamydomonas			9.19			18.14
Chodatella		1.08			3.63	
Closterium						
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella			3.23			9.51
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	10.67	7.94	0.93	9.12	4.99	4.99
Mougeotia						
Oocystis						
Paulschulzia						
Pediastrum						
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus						
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon						
Westella						
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium		16.16			11.27	
Total	12.90	25.18	13.35	21.61	19.89	32.64

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena		4.28	10.70		27.34	27.34
Trachelomonas	3.00	1.80	3.00	17.89	17.89	17.89
Phacus						
Total	3.00	6.08	13.70	17.89	45.23	45.23
GROUP 4						
Biocoeca		5.40			7.92	
Bitrichia						
Chrysochromulina	12.00	31.40	23.99	13.48	13.48	13.48
Chrysoikos						
Small Chrysophyceae	40.63	26.62	15.88	4.99	4.99	4.99
Large Chrysophyceae	9.34	37.36	20.55	7.92	7.92	7.92
Dinobryon	115.36	174.77	48.86	66.68	85.18	52.23
Kephyrion						
Mallomonas	0.68			18.62		
Ochromonas						
Pteridomonas						
Salpingoeca		6.90	6.90		8.49	8.49
Spinifiromonas						
Stelexmonas	62.50	46.70	46.70	5.76	5.76	5.76
Stichogloeca						
Synura	8.32			42.99		
Uroglena						
Epiphyxis						
Total	248.83	329.35	162.88	160.44	133.74	92.87
GROUP 5						
Asterionella	47.27	36.95	31.94	45.68	19.47	19.41
Cyclotella	7.75		0.45	20.63		12.92
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	2892.86	3701.55	2264.75	139.05	141.90	133.48
Navicula						
Nitzchia						
Rhizosolenia	55.32	22.99	12.93	11.02	11.52	9.51
Stephanodiscus						
Surirella						
Synedra	1.78	23.06	9.42	8.57	71.29	50.36
Tabellaria	7.00			12.41		
Stauromies						
Pennate Diatoms						
Total	3011.98	3784.55	2319.49	237.36	244.18	225.68
GROUP 6						
Cryptomonas		37.34	20.26		63.24	63.24
Katablepharis	17.24	8.62	20.12	5.76	5.76	5.76
Rhodomonas	91.23	107.19	103.88	13.88	13.88	13.88
Gonyostomun						
Total	108.47	153.15	144.26	19.64	82.88	82.88
GROUP 7						
Ceratium						
Gymnodinium	24.40	4.82	10.92	48.84	28.44	37.36
Peridinium	0.48	2.85	2.85	16.55	16.55	16.55
Total	24.88	7.67	13.77	65.39	44.99	53.91

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	62.19	9.42	64.32	115.17	44.81	70.99
Aphanizomenon	69.36	26.42	42.58	70.68	74.80	67.41
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphosphaeria						
Lyngbya	20.12		10.78	11.02		9.85
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	151.67	35.84	117.68	196.87	119.61	148.25
GROUP 2						
Ankistrodesmus			0.24			3.98
Ankrya						
Arthrodesmus						
Botryococcus						
Carteria						
Chlamydomonas	2.01	0.07	36.10	12.17	2.67	17.22
Chodatella						
Closterium			0.20			12.37
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella						
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella						
Monoraphidium	5.03	2.70	5.03	5.11	9.83	5.11
Mougeotia						
Oocystis		1.44			5.76	
Paulschulzia						
Pediastrum		14.72			51.99	
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus						
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon						
Westella						
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium						
Total	7.04	18.93	41.57	17.28	70.25	38.68

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena	2.14	6.42	2.14	27.34	27.34	27.34
Trachelomonas	1.54	6.79	3.08	16.99	21.00	16.99
Phacus						
Total	3.68	13.21	5.22	44.33	48.34	44.33
GROUP 4						
Biocoeca			1.29			7.01
Bitrichia						
Chrysochromulina	10.42	58.47	26.55	13.01	13.48	13.01
Chrysoikos	2.01			8.12		
Small Chrysophyceae	19.15	22.41	23.81	4.99	4.99	4.99
Large Chrysophyceae	17.46	35.49		8.02	7.92	
Dinobryon	61.06	61.06	317.53	14.81	14.81	14.81
Kephyrion						
Mallomonas	0.48	0.48	2.08	16.55	16.55	36.24
Ochromonas		2.73			8.99	
Pteridomonas						
Salpingoeca	4.60	29.89	22.99	8.49	8.49	8.49
Spinifiromonas	2.30		2.73	8.49		8.99
Stelexmonas	7.90	10.06	5.03	5.76	5.76	5.76
Stichogloeca						
Synura	3.88			8.02		
Uroglena						
Epiphyxis						
Total	129.26	220.59	402.01	96.26	80.99	99.30
GROUP 5						
Asterionella	22.75	38.16	33.80	20.13	20.13	20.13
Cyclotella	0.14	3.40	0.42	11.02	16.78	11.02
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria		6.27			55.76	
Frustula						
Gyrosigma						
Melosira	2053.18	479.74	1249.34	136.59	78.23	135.77
Navicula						
Nitzchia						
Rhizosolenia		11.49			11.52	
Stephanodiscus	18.80	30.58		35.54	36.51	
Surirella						
Synedra	14.95	7.04	11.82	34.90	34.90	34.90
Tabellaria		24.00	3.00		15.63	12.41
Stauromies						
Pennate Diatoms						
Total	2109.82	600.68	1298.38	238.18	269.46	214.23
GROUP 6						
Cryptomonas	18.97	10.46	13.22	53.54	53.54	53.54
Katablepharis	6.47	6.47	7.54	5.76	5.76	6.59
Rhodomonas	75.43	55.75	147.41	13.88	13.88	13.88
Gonyostomun						
Total	100.87	72.68	168.17	73.18	73.18	74.01
GROUP 7						
Ceratium						
Gymnodinium	8.23	20.58	9.77	34.00	34.00	36.00
Peridinium		1.90			16.55	
Total	8.23	22.48	9.77	34.00	50.55	36.00

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena	44.17	154.23	106.05	20.22	62.85	39.85
Aphanizomenon	11.00			47.18		
Aphanocapsa						
Aphanothece						
Chroococcus	0.54			3.06		
Gomphospaeria		4.89			36.00	
Lyngbya			1.26			6.94
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	55.71	159.12	107.31	70.46	98.85	46.79
GROUP 2						
Ankistrodesmus	11.38	7.79	8.33	3.98	4.06	4.24
Ankrya	0.14			3.37		
Arthrodesmus						
Botryococcus						
Carteria						
Chlamydomonas	17.46	4.24	0.11	13.57	12.26	3.06
Chodatella						
Closterium	0.65			5.56		
Coelastrum						
Collodictyon						
Cosmarium						
Crucigeniella			0.14			2.12
Dictyospaerium		0.14			2.12	
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella			1.15			2.67
Monoraphidium			0.11			3.06
Mougeotia						
Oocystis						
Paulschulzia	31.10	22.61	92.64	30.00	29.99	48.00
Pediastrum						
Planctonema						
Pyramidomonas	0.02			5.64		
Quadrigula						
Scenedesmus	2.16			6.59		
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum						
Teilingia						
Tetraedon			0.29			4.24
Westella						
Desmidium						
Scourfieldia						
Gyromitus						
Chlorogonium			6.11			11.75
Total	62.91	34.78	108.88	68.71	48.43	79.14

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena		2.82			29.96	
Trachelomonas	0.92	0.69		13.00	13.00	
Phacus	0.41			12.49		
Total	1.33	3.51	0.00	25.49	42.96	0.00
GROUP 4						
Biocoeca	3.52	3.52	1.54	7.76	7.76	7.43
Bitrichia						
Chrysochromulina	10.27	56.04	13.83	4.99	10.75	15.77
Chrysoikos						
Small Chrysophyceae	16.81	15.41	40.16	4.99	4.99	4.99
Large Chrysophyceae	9.70	34.91	19.40	8.02	8.02	8.02
Dinobryon		60.35			13.88	
Kephyrion						
Mallomonas	12.42	12.31	12.84	40.88	58.75	37.81
Ochromonas		3.59	2.73		9.85	8.99
Pteridomonas						
Salpingoeca	2.08	4.17	21.34	6.52	6.52	8.02
Spinifiromonas						
Stelexmonas	0.72	3.59	2.16	5.76	5.76	5.76
Stichogloeca						
Synura	28.63	0.95	16.65	45.00	20.89	43.00
Uroglena						
Epiphyxis						
Total	84.15	194.84	130.65	123.92	147.17	139.79
GROUP 5						
Asterionella	1.44	2.20	1.56	7.26	7.26	7.26
Cyclotella	4.07	5.43	3.28	14.53	14.50	13.46
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	463.30	325.38	358.20	74.47	73.75	70.47
Navicula						
Nitzchia						
Rhizosolenia	10.06	7.54	4.31	8.74	8.74	8.31
Stephanodiscus						
Surirella						
Synedra	0.86	3.21	0.27	8.57	34.78	7.19
Tabellaria			1.60			15.63
Stauromies						
Pennate Diatoms						
Total	479.73	343.76	369.22	113.57	139.03	122.32
GROUP 6						
Cryptomonas	82.42	52.67	67.78	64.37	64.37	46.35
Katablepharis	2.16	5.75	2.87	5.76	5.76	5.76
Rhodomonas	81.32	122.84	110.49	13.88	13.88	13.88
Gonyostomun						
Total	165.90	181.26	181.14	84.01	84.01	65.99
GROUP 7						
Ceratium						
Gymnodinium	7.23	4.82	6.01	28.44	28.44	79.82
Peridinium	1.45	2.90	9.41	15.12	15.12	15.12
Total	8.68	7.72	15.42	43.56	43.56	94.94

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GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 1						
Anabaena		51.40	39.23		88.24	77.49
Aphanizomenon		47.15	12.32		64.72	2.16
Aphanocapsa						
Aphanothece						
Chroococcus						
Gomphospaeria	12.35		4.88	34.00		35.99
Lyngbya	2.16			8.31		
Merismopedia						
Microcystis						
Oscillatoria						
Radiocystis						
Small bluegreens						
Synechococcus						
Total	14.51	98.55	56.43	42.31	152.96	115.64
GROUP 2						
Ankistrodesmus						
Ankrya		0.36	0.36		4.57	4.57
Arthrodesmus						
Botryococcus		1.59			17.17	
Carteria	10.24			13.96		
Chlamydomonas	7.11	34.77	21.55	8.57	16.49	16.01
Chodatella	0.54			5.23		
Closterium			0.20			12.37
Coelastrum	1.45			23.99		
Collodictyon						
Cosmarium						
Crucigeniella	0.86			4.86		
Dictyospaerium						
Elaktothrix						
Eudorina						
Gloeobotrys						
Kichnerella		1.08			3.06	
Monoraphidium	4.02	3.95	3.02	4.06	4.57	4.06
Mougeotia						
Oocystis						
Paulschulzia	4.12		8.98	34.00		35.00
Pediastrum	6.70		8.32	40.00		42.99
Planctonema						
Pyramidomonas						
Quadrigula						
Scenedesmus						
Schroederia						
Small greens						
Spirogrya						
Sponylosium						
Staurastrum	2.00			26.73		
Teilingia						
Tetraedon						
Westella						
Desmidium						
Scourfieldia						
Gyromitus	189.66	99.14	159.48	10.46	10.46	10.46
Chlorogonium		2.73			7.13	
Gloecoccus		4.96			10.96	
Total	226.70	148.58	201.91	171.86	63.45	125.46

GENERA	BIOMASS (mg-m^3)			ESD		
	Stn. 1	Stn. 2	Stn. 3	Stn. 1	Stn. 2	Stn. 3
GROUP 3						
Astasia						
Euglena		21.40	2.14		27.34	27.34
Trachelomonas	23.18	28.06	33.55	17.99	17.99	17.99
Phacus						
Total	23.18	49.46	35.69	17.99	45.33	45.33
GROUP 4						
Biocoeca		22.98	4.60		16.98	8.49
Bitrichia						
Chrysochromulina	18.21	16.64	14.34	4.99	13.30	13.48
Chrysoikos						
Small Chrysophyceae	12.14	21.95	28.02	4.99	4.99	4.99
Large Chrysophyceae	16.81		5.60	7.92		7.92
Dinobryon		207.62			14.81	
Kephyrion						
Mallomonas	4.44	16.87	19.31	36.61	46.62	46.78
Ochromonas						
Pteridomonas		2.87			9.14	
Salpingoeca						
Spinifiromonas						
Stelexmonas	5.76	36.64	5.03	10.06	5.76	5.76
Stichogloeca						
Synura						
Uroglena						
Epiphyxis						
Total	57.36	325.57	76.90	64.57	111.60	87.42
GROUP 5						
Asterionella	15.79	18.86	10.52	19.85	19.85	19.85
Cyclotella	13.36	1.22	2.14	21.83	14.28	14.28
Diatoma						
small Diatoms						
large Diatoms						
Fragilaria						
Frustula						
Gyrosigma						
Melosira	299.20	305.96	219.52	76.02	67.84	70.11
Navicula						
Nitzchia						
Rhizosolenia						
Stephanodiscus		22.92	61.14		41.79	46.00
Surirella						
Synedra	7.37	7.05	5.31	33.57	23.79	33.57
Tabellaria		8.40	1.60		12.41	12.41
Stauromies						
Pennate Diatoms						
Total	335.72	364.41	300.23	151.27	179.96	196.22
GROUP 6						
Cryptomonas	122.58	126.18	201.74	55.15	55.15	55.15
Katablepharis	22.27	19.40	10.06	5.76	5.76	5.76
Rhodomonas	192.97	179.60	299.86	13.88	13.88	13.88
Gonyostomun	45.00			52.32		
Total	382.82	325.18	511.66	127.11	74.79	74.79
GROUP 7						
Ceratium		10.00	10.00		45.71	45.71
Gymnodinium	16.40		17.22	37.37		37.99
Peridinium		0.95	2.38		16.55	16.55
Total	16.40	10.95	29.60	37.37	62.26	100.25